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IN THE CIRCUIT COURT OF THE 11TH JUDICIAL CIRCUIT

IN AND FOR DADE COUNTY FLORIDA

GENERAL JURISDICTION DIVISION

CASE NO. 94-08273 CA (20)

- - - - - X
HOWARD A. ENGLE, M.D., :
et al, :
Plaintiffs, :
v. :
RJ REYNOLDS TOBACCO :
COMPANY, et al, :
Defendants. :
- - - - - X

COPY

Deposition of DAVID E. TOWNSEND, Ph.D.

(Taken by Plaintiffs)

Winston-Salem, North Carolina

January 7, 1998

Reported by: Christine A. Taylor,
Certified Shorthand Reporter
Notary Public

HUSEBY/INTERIM COURT REPORTING

51676 4793

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18
19 Deposition of DAVID E. TOWNSEND, Ph.D., taken
20 by the Plaintiffs, at Womble, Carlyle, Sandridge &
21 Rice, 200 West Second Street, Winston-Salem, North
22 Carolina, on the 7th day of January, 1998, at
23 9:20 a.m., before Christine A. Taylor, Certified
24 Shorthand Reporter and Notary Public.
25

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P R O C E E D I N G S

Whereupon, DAVID E. TOWNSEND, Ph.D., having been duly sworn, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR PLAINTIFFS

BY MR. HOAG:

Q. Could you state your name for the record please.

A. My name is David Townsend.

Q. And you work for RJ Reynolds Tobacco Company; correct?

A. I'm an employee of RJ Reynolds Tobacco Company.

Q. Right now your current position is director of product development; correct?

A. No, that's not correct. My current position is vice president of product development and assessment.

Q. How long have you had that position?

A. Since July '97.

Q. That was a position that you obtained about, I don't know, a few weeks, maybe a month after you were deposed by me in the Broynne case; is that correct?

A. I was promoted to vice president in July. I can't recall exactly when we had the

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1 Broyne deposition.

2 Q. I think that was in June. Have you read
3 that deposition?

4 A. I've read portions of it last night and,
5 of course, I read it in its entirety just after the
6 transcript was available for corrections.

7 Q. Is there anything in that deposition that
8 you need to change, revise, clarify?

9 A. Well, frankly, it wasn't a terribly good
10 transcript. There were a number of small errors in
11 it which I noted and gave to my counsel.

12 Q. Other than those things that you
13 previously noted and provided to counsel, is there
14 anything else in that deposition that you now feel
15 that you need to clarify or revise in any way?

16 A. Not that I recall.

17 MR. LATHAM: John, will you speak up a
18 little bit, the speaker here is not very strong, or
19 could you get a little closer to the mike.

20 MR. HOAG: I'll try to do that. Is this
21 any better?

22 MR. LATHAM: Yes, better.

23 BY MR. HOAG:

24 Q. The reason I'm asking that, Dr. Townsend,
25 is so as to avoid repeating all the questions that

1 were in the other deposition. I may repeat some of
2 them, but I'm going to try not to repeat all of
3 them. For example, there was a fairly extensive
4 portion of that deposition about your compensation
5 that you received through the company, and that's
6 also accurate or has that changed in any way?

7 A. It's changed a bit with my promotion but
8 not substantially, frankly.

9 Q. How has it changed?

10 A. Well, my salary, my base salary has
11 increased a little bit.

12 Q. What has it increased to?

13 A. In the neighborhood of 150 -- 155,000.

14 Q. Per year?

15 A. Per year.

16 Q. That's as of July of 1997?

17 A. That's correct.

18 Q. Any other changes in your compensation?
19 And I'm including your total compensation package.

20 A. We had extensive discussion in the Broynne
21 deposition about the AIAP program, the annual
22 incentive award program. At that point I believe
23 my target AIAP was 30 percent. With my promotion,
24 it's become 40 percent of my base salary.

25 Q. Just explain what that means.

1 A. The annual incentive award program is a
2 program where a portion of my salary is in jeopardy
3 and whether I collect that depends on how well the
4 company does. The portion of my salary that's in
5 jeopardy is 40 percent.

6 If the company does well, I may get that
7 40 percent or maybe even slightly higher as a
8 one-time payout for that year. If the company does
9 poorly by two measures, then I may get less or even
10 nothing.

11 Q. When you say 40 percent in jeopardy, you
12 don't mean any of that 150, 155 thousand base, do
13 you?

14 A. No. The base salary is -- as I said, the
15 40 that's in jeopardy based on company performance
16 is in addition to that base salary and that's 40
17 percent of the base salary.

18 Q. So you're talking about approximately
19 60,000 additional dollars a year?

20 A. That's approximately correct.

21 Q. If you achieve the AIAP program goal, you
22 would receive instead of compensation of 150,000,
23 for example, you'd receive 210,000 for that year;
24 is that correct?

25 A. That is generally correct.

1 Q. Has that been assessed for 1997 or is
2 1997 not really completed because you deal with a
3 fiscal year that begins in July?

4 A. The '97 AIAP has not been fully
5 assessed. Payout of that will not be until
6 sometime in the spring after the company assesses
7 its performance in '97 and decides what the target
8 is in fact.

9 Q. What is the performance of the company to
10 date in regard to your AIAP?

11 A. Well, I can't answer that question
12 quantitatively. I can tell you in general that
13 there's two major measures for assessing AIAP
14 targets. The first is operating company
15 contribution, the second is meeting target market
16 share performance.

17 In the operating company contribution,
18 the company -- my estimate is the company has met
19 target. In the market share portion, the company
20 has not met target. So I have no idea how the
21 final calculation will turn out, but at this point
22 at least one of the two has met target, I believe.
23 The other has not.

24 Q. When you say operating company
25 contribution, what do you mean?

1 A. I mean the profit after operating
2 expense.

3 Q. What is that level of profitability for
4 the company?

5 A. For RJ Reynolds Tobacco Company,
6 operating company contribution is in the
7 neighborhood of 1.4 billion.

8 Q. As far as you know, the company has met
9 that particular goal for 1997; is that correct?

10 A. That's my understanding.

11 Q. Have they exceeded that goal?

12 A. They may have exceeded it slightly, but,
13 again, I haven't seen the final numbers.

14 Q. As to the market share, you believe that
15 they're not on target, and how does that -- the
16 fact that one of them is on target and the other
17 one isn't, how does that impact your 40 percent?

18 A. It impacts the AIAP award directly. If
19 we miss market share, that's going to reduce the
20 payout under the AIAP program.

21 Q. Does it reduce it in an equal manner; in
22 other words, instead of getting 40 percent, you get
23 20 percent?

24 A. I don't know the details of how the
25 company calculates this. I don't think that it's

1 necessarily a linear function, but I don't know the
2 details.

3 Q. Do you know who it is or -- yeah, I guess
4 I'll ask the question that way. Do you know who it
5 is at RJR that that's the standard for operating
6 company contribution and market share?

7 A. No, I don't.

8 Q. Is there some kind of a group of people
9 that have some group name that does this, if you
10 know?

11 A. That sets the targets?

12 Q. Yes.

13 A. Well, it's certainly -- and I think I'm
14 assuming some things here based on experience, but
15 certainly the RJ Reynolds Tobacco Company executive
16 committee has a lot of input. Obviously, our
17 parent company, RJ Reynolds -- RJR Nabisco --
18 excuse me, RJR Nabisco has the final say in what
19 our targets are.

20 Q. What was the market share prior to '97
21 for RJR?

22 A. Approximately, I'm just giving you
23 approximate figures, about 28 percent of the
24 market, U.S. market.

25 Q. Do you have anything to do with any other

1 markets other than the United States market?

2 MR. LATHAM: Object to the form of the
3 question.

4 A. As a research scientist I support product
5 development efforts for our sister company, RJ
6 Reynolds Tobacco International.

7 BY MR. HOAG:

8 Q. What are the nature of your duties in
9 support to RJR Tobacco International?

10 A. Well, there's two major duties I have.
11 The first is to provide cigarette designs for
12 RJ Reynolds Tobacco International to meet
13 particular performance targets for those
14 cigarettes, new and improved products.

15 The second major responsibility is to
16 provide analytical research and routine analytical
17 support for those product development efforts for
18 the international sister company.

19 Q. How long have you had those duties?

20 A. I suppose since June of '96.

21 Q. Prior to June of '96 did you have any
22 duties that related to the internationally rather
23 than just domestically in the United States?

24 A. Yes. I didn't have an analytical support
25 function for the international company. I did have

1 a product development function or responsibility
2 for the international company.

3 Q. Now, is any portion of the annual
4 incentive award that you are eligible to receive
5 under certain circumstances based in any way on
6 performance internationally?

7 A. Yes, it is.

8 Q. In what way is it based on performance
9 internationally?

10 A. Well, you've asked a very complicated
11 question. I don't know the exact answer other than
12 a small portion of our target calculation depends
13 on some -- depends on how the international company
14 does.

15 The major part of the calculation, I
16 understand, is based on the U.S. or -- the domestic
17 company performance as we've already talked about,
18 but a small portion, maybe, and I'm guessing, 10,
19 15 percent of the total target depends on how well
20 the international company does.

21 Q. Is it based on the parameters that you
22 named?

23 A. Yes.

24 Q. Are you provided with that information,
25 how the international company is doing?

1 A. In a general sense, certainly. We're
2 provided with information about market share in the
3 various regions of the international company's
4 operation. We're provided with some financial
5 information like operating company contribution.

6 Q. I'm going to ask you a real specific
7 question about a specific product, the Eclipse, is
8 that an international product or is that just
9 domestic, domestic meaning United States?

10 A. Products under the Eclipse brand name are
11 sold only in the United States. We do have similar
12 products that are sold in a couple other -- or
13 several other countries.

14 Q. What other countries?

15 A. We have a test market of an Eclipse-like
16 product that's running in Augsburg, Germany. We
17 have a test market through a partnership with
18 Swedish Tobacco Company and that test market is in
19 Sweden. Each of these products has different brand
20 names. In the case of Sweden, that partnership
21 allows Sweden to, in fact, do the marketing and to
22 some degree product development.

23 Then the third place that we have an
24 Eclipse-like product is through a partnership in
25 Japan with Japan Tobacco, and similar to Sweden,

1 Japan Tobacco is responsible for product
2 development and marketing of that product.

3 Q. Anywhere else?

4 A. That's all.

5 Q. Do you have anything to do with those
6 Eclipse-like products in Germany, Sweden, and
7 Japan?

8 A. I have some to do with it from the
9 product development aspect and also from the
10 analytical support aspect.

11 Q. How long have you been working on the
12 Eclipse and/or Eclipse-like products?

13 A. Are you talking about me personally or
14 the company?

15 Q. Well, right now I mean you personally.

16 A. I've had peripheral responsibility for
17 Eclipse for I would guess maybe two and a half to
18 three years. However, now I've got direct
19 responsibility for product development for Eclipse
20 in supporting some of the international product
21 efforts.

22 Q. How long have you had the direct
23 responsibility?

24 A. Well, officially, since the beginning of
25 1998.

1 Q. You say officially since the beginning of
2 1998. Was it unofficially prior to that?

3 A. Well, unofficially, I guess I've spent an
4 awful lot of time and effort on the Eclipse project
5 over the last several months as we've tried to
6 reorganize that project and to a degree redirect
7 that project.

8 Q. In what way has the project been
9 reorganized?

10 A. The person in charge of the Eclipse
11 project retired from the company at the end of the
12 year. So at that point I assumed responsibility
13 for a large portion of the Eclipse development and
14 reorganized the personnel, added some new personnel
15 to the project, and redirected some of the
16 objectives.

17 Q. Who was it that left the company that was
18 directing the program in 1997?

19 A. His name was Jim Phillips.

20 Q. What is his background?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. Jim Phillips has been with RJ Reynolds
24 for a long time, is, I think, an engineer by
25 training, been involved in many aspects of the

1 tobacco business over roughly a 30-year period.

2 BY MR. HOAG:

3 Q. Does he have a Ph.D. in anything?

4 A. No. I think his formal training is in
5 engineering, either process engineering or chemical
6 engineering, I'm not certain. But he's a highly
7 skilled and highly talented engineer.

8 Q. Approximately, how long or how many years
9 did he work on the Eclipse project?

10 A. I would have to guess. I suppose my
11 guess would be about four years.

12 Q. What do you base that guess on?

13 A. Just my recollection of our internal
14 organization and just my recollection.

15 Q. When did the Eclipse -- let me scratch
16 that question.

17 The project to develop the Eclipse, what
18 was it called, what's the name for it?

19 A. Well, the major project name was GTC, and
20 then as the GTC project got off the ground and
21 started making progress, then we defined a brand
22 name for that project and that was Eclipse. We
23 call it Eclipse today.

24 Q. Now, when did the GTC project first
25 begin?

1 A. Again, I'm guessing, I would say in 1990
2 or maybe late 1989. That's my best guess.

3 Q. Were you involved in any way in the
4 initial GTC project?

5 A. Well, throughout this project I've
6 provided some support from the cigarette design
7 perspective, product development perspective, also
8 in the early days as a consultant on various
9 aspects of the design.

10 Q. What does GTC stand for?

11 A. I'm not sure that it stands for anything.

12 Q. You don't know --

13 A. I don't know.

14 Q. -- one way or the other?

15 A. No, I don't.

16 Q. Who began it or whose idea was it to
17 start the GTC project?

18 A. I can't point to one individual. I think
19 Dr. Demarco was in charge of research and
20 development at that time. He had a lot of passion
21 over developing products of this sort as many of us
22 do and have, have had for many years. He was
23 certainly the champion of the project in those
24 early days.

25 Q. What was the goal of the project?

1 A. The goal of the project was to develop a
2 cigarette that was consumer acceptable, has major
3 reductions in mainstream chemistry and mainstream
4 smoke biology, and maintain major reductions in
5 sidestream smoke yields or environment tobacco
6 smoke, and maintain the other properties of
7 Premier, which was a product that we had in test
8 market that failed. But the key -- the key was to
9 make that product consumer acceptable whereas
10 Premier, it turned out, was not consumer
11 acceptable.

12 Q. What is the difference between the
13 Premier product and the Eclipse product?

14 A. The major difference -- well, there are
15 quite a few differences in design and in function.
16 Let me turn to the function. Premier only heated
17 tobacco, did not burn tobacco. That product did
18 fail in the test market.

19 In the Eclipse project, one of the
20 directions was to, in fact, incorporate a very,
21 very small amount of tobacco that's burned to try
22 to improve the taste characteristics and improve
23 consumer acceptance. So the Eclipse product
24 primarily heats tobacco and most of the smoke, in
25 fact, that issues from Eclipse is from primarily

1 heating tobacco not burning it, but in Eclipse we
2 do burn a very, very small amount of tobacco.

3 Q. Okay. Is that the major difference
4 between Premier and Eclipse, that the Eclipse burns
5 what you characterize as a small amount of tobacco
6 versus the Premier that didn't burn any tobacco at
7 all?

8 A. That's the major functional difference.
9 Obviously, there are a lot of design differences.
10 The Premier product included an aluminum capsule
11 inside the cigarette into which a fuel source was
12 attached and a substrate resided in that aluminum
13 capsule.

14 The Eclipse design gets away from the
15 aluminum capsule and uses the tobacco substrate
16 directly packed behind the fuel source. The fuel
17 source is similar in both Premier and Eclipse, but
18 what's behind the fuel source is substantially
19 different from the design standpoint.

20 Q. Now, one of the goals of the Eclipse
21 project was a major reduction in mainstream smoke
22 biology, what do you mean by that?

23 A. We have a number of biological assays
24 available internal to Reynolds and external to
25 Reynolds, and measurement of smoke biological

1 activity by a variety of assays have been conducted
2 with both the Premier and the Eclipse, and we see
3 substantial reductions in those biological
4 endpoints, reductions that are consistent with the
5 major reductions in mainstream smoke chemistry that
6 we've seen.

7 Q. What are the major biological reductions
8 that have been achieved in the Eclipse?

9 A. Well, there's a large number, and I
10 couldn't completely list them all for you as we sit
11 here today. I think the Premier Monograph fairly
12 outlines the biological assays that we have
13 conducted both for Premier and many of those for
14 Eclipse. But they include in vitro studies, test
15 tube studies, looking at DNA changes, looking at
16 cell damage, a variety of different including -- as
17 well as some in vivo studies with animals, and
18 we've also conducted some studies with humans.

19 Q. Urine mutagenicity tests, would those be
20 included?

21 A. We have conducted urine mutagenicity
22 tests with both Premier and Eclipse.

23 Q. What were the results for the Eclipse?

24 A. Well, I can't recall the exact details,
25 but in a general sense smokers who smoke the

1 Eclipse or Premier have showed major reductions in
2 urine mutagenicity.

3 Q. What does that mean, urine mutagenicity?

4 A. That's a real good question. It is an
5 artificial laboratory measure using a mutagenicity
6 test like a names test where urine from smokers and
7 nonsmokers will show different results, and urine
8 from smokers -- I'm not an expert in this area.
9 Urine from smokers will, in fact, show more
10 mutagenicity on the names type mutagenicity test
11 than urine from nonsmokers. Smokers who smoke
12 Premier or Eclipse show major reductions in urine
13 mutagenicity by that arbitrary test.

14 Q. What does the word mutagenicity mean?

15 A. I'm not an expert in this area. I think
16 really to get a good answer, you need to talk to
17 one of our biologists or biological experts. But
18 my superficial understanding is that mutagenicity,
19 and there are several measures of mutagenicity that
20 are available in laboratories, that mutagenicity is
21 mutations of DNA or cellular material in some type
22 of laboratory test.

23 Q. So human beings have a smaller number of
24 these mutations of DNA or cellular material when
25 they smoke the Eclipse and/or the Premier as

1 compared to a standard reference cigarette; is that
2 correct?

3 MR. LATHAM: Object to the form of the
4 question.

5 A. All I know is that smokers who smoke
6 Eclipse or Premier show a major reduction in urine
7 mutagenicity by those laboratory measures that
8 we've conducted.

9 BY MR. HOAG:

10 Q. Does that have any significance?

11 A. Significance to what?

12 Q. To anything. I guess I'm asking, why did
13 they do that test on the Eclipse and the Premier?

14 A. Let me give you a general answer to that
15 because this really is not my area of expertise.
16 When we modify cigarette designs to reduce
17 mainstream chemistry, it makes sense to go and
18 conduct biological studies that are available
19 either internally or externally to see if those
20 chemistry reductions have made any difference in
21 any biological assays.

22 What I don't understand and what I think
23 biology and toxicology doesn't understand is what
24 any of these tests in themselves mean to human
25 disease, if that's your question. But I think

1 there are a variety of measures that show
2 differences and then together with chemistry and
3 the biology results, one can then speculate about
4 whether the changes that you've made in the
5 cigarette design are meaningful.

6 Q. Meaningful in what way?

7 A. In the likelihood of reducing the
8 potential risks of smoking.

9 Q. You're talking about the health risks;
10 right?

11 A. Yes.

12 Q. So what's the conclusion regarding the
13 Eclipse product as far as the likelihood of
14 decreasing the health risks of smoking?

15 A. I think there is substantial evidence
16 that leads us as well as scientists outside of
17 Reynolds to conclude that the Eclipse product may
18 be a less risky cigarette. There's no way to prove
19 that, however, but certainly the chemistry and the
20 biology point in that direction.

21 Q. That's also true for the Premier
22 cigarette?

23 A. Yes.

24 Q. Back when the filters were first used for
25 cigarettes, was that also a reason that the filters

1 were put in there to make an attempt to reduce the
2 health risks of smoking cigarettes?

3 MR. LATHAM: Object to the form of the
4 question.

5 A. Obviously, I didn't work in the industry
6 at the time. From looking at a number of articles
7 external to Reynolds as well as internal
8 information, my conclusion is that smoking and
9 health issues was one motivation for the use of
10 filters on cigarettes. There were other
11 motivations.

12 Some of the consumers, in fact, liked
13 filtered cigarettes because it eliminated tobacco
14 particles in their mouth, they liked the feel and
15 the fact that that filter was there just from an
16 aesthetic point of view. But, certainly, the
17 smoking and health issue was one important factor
18 to why filters achieved popularity.

19 BY MR. HOAG:

20 Q. Now, your duties as a vice president of
21 product development and assessment -- did you say
22 assessment?

23 A. Assessment. What that does is reflects
24 the analytical research and analytical routine
25 support function that I'm responsible for.

1 Q. What are your duties?

2 A. In analytical chemistry?

3 Q. Well, your duties as vice president, what
4 are those duties?

5 A. I'm responsible for two major areas,
6 product development, and most of my focus is on new
7 product development, although, some of my
8 scientists and my attention is on existing brand
9 improvement, but product development is one major
10 function.

11 The second major function is analytical
12 chemistry, that breaks down into two elements.
13 There's analytical chemistry research where we try
14 to understand tobacco products, smoke, and provide
15 for the development of new analytical
16 methodologies. Then there's a second portion of my
17 analytical function which is to provide routine
18 analytical chemistry to support RJ Reynolds.

19 Q. When you say routine analytical chemistry
20 to support RJ Reynolds, what are some examples of
21 that, routine analytical chemistry?

22 A. I'll give you a number of examples,
23 measurement of tar, nicotine, and carbon monoxide
24 to support our manufacturing both domestic and for
25 some international brands. We also measure a

1 number of constituents in smoke to support product
2 development efforts, for example, or to support --
3 we'll also measure the quality of incoming raw
4 materials; for example, shipments of sugar or
5 glycerin that we may use to make sure that they
6 meet specifications. So we provide routine support
7 for a variety of functions across the company.

8 Q. In that routine support, that's all under
9 your authority as vice president of product
10 development assessment?

11 A. Yes.

12 Q. How many people are in your area, I guess
13 what I mean is the total number of people that you
14 have responsibility for at RJ Reynolds?

15 A. Well, that fluctuates from time to time.
16 Presently, it's about 115, I think.

17 Q. How many of those people are scientists?

18 A. How do you want to define scientists?

19 Q. I'll let you define it anyway you choose
20 to. I was thinking people that have advanced
21 degrees in scientific studies or areas like
22 chemistry, things like that?

23 A. Okay. And the reason I ask that question
24 was because I regard all the people in my group as
25 highly skilled, technical people whether they have

1 science degrees or not. I can only guess. I mean,
2 I could certainly find out exact numbers for you,
3 but I think there's somewhere in the neighborhood
4 of I would say 25 or so Ph.D.'s in my group
5 presently, another -- I'm just guessing you
6 understand, probably another 15 that have masters
7 degrees in science, in some form of science. Then
8 a large fraction of my total group of employees
9 have bachelor's degrees either in chemistry or
10 biology, primarily chemistry, a few people have
11 degrees in physics.

12 Q. Now, in your position as vice president
13 do you ever meet with marketing people?

14 A. Yes.

15 Q. What are the circumstances where you
16 would meet with marketing people as vice president?

17 A. The most common occurrence is to meet
18 with marketing to plan consumer testing for some of
19 our new prototypes or to evaluate the results of
20 consumer testing that we've conducted.

21 Q. Who actually does the consumer testing?

22 A. Marketing is responsible for consumer
23 testing. They frequently will use outside
24 contractors to actually conduct the experiment.

25 Q. What does an experiment entail? If you

1 could give me an example of a consumer testing
2 experiment on the Eclipse, for example.

3 A. Okay. One example might be that we've
4 developed three different prototypes that we think
5 might be better or might have improved consumer
6 acceptance compared to the current product that's
7 in test market. So marketing then would direct a
8 contractor to field those three prototypes plus the
9 control product which is in test market, so four
10 total products among a large number of smokers.
11 The contractor would find those smokers and
12 actually place product with those smokers, usually
13 a couple packs or maybe even as much as a carton,
14 the smokers will smoke the product, then rate the
15 products on a standardized questionnaire.

16 Q. What questions are in the questionnaire?

17 A. Well, there's a large number of questions
18 on the questionnaire and it varies depending on the
19 type of consumer test or the type of consumer
20 information we want.

21 Q. Do you have input into what questions are
22 asked of those consumers?

23 A. Not generally. There are specific cases
24 where we as product developers want to ask a
25 particular question of smokers and so we may have

1 one or two questions that we're particularly
2 interested in placed on the ballot.

3 Q. What questions are you particularly
4 interested in?

5 A. Well, that's a very broad question.
6 Since you're talking about Eclipse, I'll tell you
7 that one question that my product developers and I
8 are very interested in is the taste characteristics
9 of Eclipse. A second one is how easy is it to
10 light because Eclipse has proved difficult for some
11 people to light because of its unique nature.

12 Q. Now, the taste characteristics, is that a
13 problem that you have to address with the Eclipse?

14 A. Yes.

15 Q. What way? In other words, what I mean is
16 what kind of -- what do the consumers say about the
17 taste characteristics of the Eclipse?

18 A. The taste characteristics of Eclipse
19 compared to a tobacco-burning product are that
20 Eclipse is very bland, very mild, doesn't have a
21 lot of taste sensation compared to a
22 tobacco-burning product. Then consumers will go on
23 to try to articulate some of what they think are
24 the attributes of that smoke compared to the
25 tobacco burning and we get into a lot of semantics

1 in this sort of thing. But, in general, the taste
2 of the smoke is quite different, generally milder,
3 more bland, and quite different from a
4 tobacco-burning product.

5 Q. Are there any psychological aspects of
6 smoking that are addressed in the questionnaires to
7 the consumers?

8 A. I'm not sure what you mean by
9 psychological questions.

10 Q. Well, you know, whether or not they want
11 to hold on to something, whether they want it to
12 look like a normal cigarette, things like that?

13 A. I can't recall questions of that type
14 being asked.

15 Q. What questions do you recollect being
16 asked on the questionnaire?

17 A. Well, there's a series of attribute
18 ratings that are generally asked of smokers like
19 strength of taste, tobacco taste, aftertaste
20 questions, so there are particular attributes of
21 how that smoke tastes itself. Then there's
22 questions about would you -- based on your
23 experience with this product, would you purchase
24 this product and so then there's a rating of
25 purchase intent.

1 There's also a separate category of
2 questions aimed at trying to understand overall
3 acceptance which includes not only taste
4 characteristics, but includes -- may include ash
5 appearance, unburned or unlit tobacco aroma, just a
6 variety of things. Then we can quantitatively rate
7 a particular prototype on what we call a 70 plus
8 acceptance scale. So there's three major areas of
9 questions that are asked of consumers.

10 Q. Overall acceptance, is that -- the three
11 major areas, can you just briefly say what those
12 are again?

13 A. Overall acceptance, purchase intent, and
14 then attributes for that particular product.

15 Q. What are the attributes that are
16 specifically addressed in the questionnaire?

17 A. Well, it's quite a large list and I
18 really can't go into that in detail because that --
19 first of all, because I'm not a marketing person
20 who's expert in it and, second of all, because our
21 consumer testing -- the details of our consumer
22 testing is confidential.

23 Q. Do any of the attributes in the
24 questionnaire relate to the mood of the smoker
25 after inhaling the substance?

1 A. I've never seen that question on any
2 ballot.

3 Q. Do any of the consumers ever address that
4 whether it's orally or in writing on the interview?

5 A. I've never seen any response from a
6 consumer in that regard.

7 Q. Do you know whether there's ever any
8 responses from consumers in that regard?

9 A. Well, again, I'm not an expert in
10 marketing. I haven't reviewed all of the tests
11 that have ever been conducted at RJ Reynolds. Of
12 the ones I've looked at, I've never seen a response
13 anywhere in that arena.

14 Q. Are there any pharmacological effects of
15 smoking cigarettes?

16 A. Of course.

17 Q. What are they?

18 A. I think cigarette smoke certainly
19 contains nicotine and nicotine exerts a mild
20 pharmacology.

21 Q. What is that pharmacology?

22 A. Again, you're asking a question that I'm
23 not an expert in, but nicotine does cause certain
24 small changes to the human body; changes in the
25 brain, changes in circulatory system. Beyond that,

1 you know, I'm just a layman in this area, so beyond
2 that I really can't speak to it.

3 Q. What are the changes in the brain
4 pharmacologically from nicotine?

5 A. Well, again, I'm not an expert in this
6 area, I really can't answer that.

7 Q. You just know there are changes in the
8 brain?

9 A. Yes.

10 Q. Are any of those changes in the brain
11 considered to be attributes by the company,
12 attributes of the tobacco product?

13 A. I've never seen that the case at all.

14 Q. Does nicotine increase the dopamine level
15 in the brain?

16 A. I don't know, I'm not an expert in this
17 area. I really can't speak to that.

18 Q. Do you know what dopamine is?

19 A. Well, I've heard of it, certainly.

20 Q. What have you heard?

21 A. Well, in the Popular Press and also in
22 chemistry I've heard bits and pieces about
23 dopamine. I'm not a biologist, you know, I'm not a
24 toxicologist, so I really can't speak to it in
25 detail.

1 Q. You have a Ph.D. in chemistry?

2 A. Yes, I do.

3 Q. You did learn about dopamine at least a
4 little bit as a person with a Ph.D. in chemistry;
5 right?

6 A. I can't recall ever studying anything
7 about dopamine, but like probably many people
8 around the country I've read about it in the
9 Popular Press, maybe read bits and pieces in
10 popular scientific magazines like Scientific
11 American, places like that. I'm not an expert in
12 this area.

13 Q. As the person who's vice president for
14 product development, does it have any significance
15 to you whether or not nicotine affects the dopamine
16 level in the human brain?

17 A. In accomplishing my job for RJ Reynolds,
18 the answer is no.

19 Q. So what does your job at RJ Reynolds to
20 accomplish as far as product development entail?

21 A. To make consumer acceptable products
22 that -- well, to make consumer acceptable products
23 that increase our share of market, to develop new
24 product designs that reduce chemistry and hopefully
25 biology. We also develop products that speak to

1 other issues like sidestream smoke generation and
2 other things.

3 Q. Now, if nicotine -- I'm asking you
4 hypothetically now, if nicotine is, in fact, an
5 addictive substance, would that have anything at
6 all to do with your job in product development?

7 MR. LATHAM: Object to the form of the
8 question.

9 A. How do you define addictive?

10 BY MR. HOAG:

11 Q. Have you read the surgeon general's
12 report on nicotine addiction?

13 A. I've read bits and pieces of it. I don't
14 think I've read the entire surgeon general's
15 report.

16 Q. You are familiar with it, though;
17 correct?

18 A. I'm familiar with parts of it, yes.

19 Q. It says the surgeon general of the United
20 States reported that nicotine is an addictive
21 substance; correct?

22 A. The surgeon general has concluded that.

23 Q. Based on the surgeon general's conclusion
24 that nicotine is an addictive substance, does that
25 have anything at all to do with your job in product

1 development?

2 A. Addiction to nicotine by whatever
3 definition does not have anything to do with my job
4 as a product developer.

5 Q. If, in fact, nicotine is an addictive
6 substance as defined by the surgeon general of the
7 United States, does RJR use that information in any
8 manner in the development of the Eclipse product?

9 A. Use what information?

10 Q. Information enveloped in the surgeon
11 general's report regarding the addictive --
12 regarding the conclusion in that report that
13 nicotine is addictive?

14 MR. LATHAM: Object to the form of the
15 question. It's vague, John, it's very confusing.

16 A. I'm not sure I understand the question.

17 BY MR. HOAG:

18 Q. Well, it was kind of you to tell the
19 witness not to understand it, but let me try it
20 again.

21 Given the fact that the surgeon general
22 of the United States has concluded that nicotine is
23 an addictive substance, has RJR done anything to
24 address that during the development of the Eclipse
25 product?

1 MR. LATHAM: Object to the form of the
2 question.

3 A. RJ Reynolds has conducted a lot of
4 research and had many discussions with many
5 scientists about addiction and whether nicotine is
6 addictive and why people smoke. The development of
7 Eclipse is not a result in my estimation of any of
8 that. The Eclipse's objective was to develop a
9 consumer acceptable product that reduced mainstream
10 chemistry and the biology of the mainstream smoke.

11 BY MR. HOAG:

12 Q. The Eclipse product does not remove the
13 nicotine; is that correct?

14 A. There is nicotine in mainstream smoke
15 from Eclipse.

16 Q. The Eclipse product doesn't remove the
17 nicotine; correct?

18 MR. LATHAM: Object to the form of the
19 question, asked and answered.

20 A. I don't know what you mean by remove.
21 Eclipse smoke contains nicotine, it's present at
22 very low levels compared to tobacco-burning
23 cigarettes, but it's there.

24 Q. What's the level of nicotine in the
25 Eclipse product?

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1 A. Well, there are different styles, but I
2 think two of the main styles are about .2 and .3
3 milligrams per cigarette.

4 Q. Does nicotine have any kind of a taste?

5 A. Well, I don't know that I've ever tasted
6 pure nicotine. My opinion is I don't think it does
7 or I don't see any reason why it should have a
8 taste per se. I think it probably does have a
9 sensory or a physiological component in the oral
10 cavity. Nicotine can be irritating in the oral
11 cavity, but a taste per se I don't think I would
12 say that.

13 Q. It can be irritating in the oral cavity.
14 When you say irritating, what do you mean?

15 A. Let me draw an analogy to a soda or a
16 coke.. Coca-Cola contains carbon dioxide which is
17 irritating in the oral cavity. A flat coke is one
18 that's lost that carbon dioxide. The sensory
19 component of that is quite different.

20 Q. Irritation, is that a positive quality
21 for the consumers, to be irritation in the oral
22 cavity?

23 A. I think having that sensory response in
24 the oral cavity is important for consumers. I
25 think there can be too much sensation, I think

1 there can be not enough sensation. Although, that
2 judgment is highly individual dependent.

3 Q. Are you saying that for consumers
4 irritation in the oral cavity is a positive
5 feeling?

6 A. I'm saying that that sensory response in
7 the oral cavity for many smokers is important and I
8 think nicotine is probably related in part to that
9 sensory component. There are probably other
10 things -- in fact, there's certainly other things
11 in smoke that elicit the similar sensory response
12 in the oral cavity than just nicotine.

13 Q. That sensory response in the oral cavity
14 can and is duplicated with other substances other
15 than nicotine; correct?

16 A. Carbon dioxide, for example, will elicit
17 a similar response in the oral cavity.

18 Q. Is that also in the Eclipse cigarette or
19 not?

20 A. Carbon dioxide is present anytime you
21 burn anything. In the Eclipse product, even though
22 we're burning just a carbon heat source, carbon
23 dioxide is generated.

24 Q. So that feeling of irritation in the oral
25 cavity is going to be there regardless of whether

1 the nicotine is there; is that correct?

2 A. Well, I don't think we've done that
3 experiment exactly. All I'm saying is that carbon
4 dioxide is irritating in the oral cavity.
5 Nicotine, I believe, is irritating in the oral
6 cavity, and they're similar. I don't think we've
7 done any experiments to try to separate the effects
8 of those two in Eclipse smoke.

9 Q. There wasn't any effort at all to remove
10 the nicotine from the Eclipse product; correct?

11 A. The nicotine yield for Eclipse is
12 extremely low. We do know that cigarettes that
13 have extremely low levels of nicotine much lower
14 than Eclipse are judged by consumers as
15 unacceptable. So the presence of nicotine in smoke
16 is an important component of whether or not those
17 products are consumer acceptable.

18 Q. What is there about the nicotine that
19 consumers require in order to use the products?

20 MR. LATHAM: Object to the form of the
21 question.

22 A. Well, I'm not sure what you mean by
23 require, but I think nicotine is an important
24 component of cigarette smoking. Our experience has
25 shown that cigarettes that have very, very low or

1 almost immeasurable levels of nicotine are not
2 consumer acceptable. So for whatever reason
3 nicotine is important to the smoker. And the
4 reasons why it may be important to the smoker
5 probably varies from smoker to smoker.

6 Q. Now, RJR has done consumer studies asking
7 people questions about this; correct?

8 A. Asking questions about which?

9 Q. About the nicotine.

10 A. In what respect? That's pretty broad.

11 Q. You just said that consumers wouldn't
12 smoke cigarettes that don't have a measurable level
13 of nicotine that's large enough to satisfy them;
14 correct?

15 A. No, that's not exactly what I said. If
16 what you're asking to go back to your original
17 question is have we asked people -- asked smokers
18 about nicotine levels and whether or not nicotine
19 is important, I'm not aware of such studies, but I
20 do know that from product development efforts,
21 we've evaluated with consumers products that have
22 high levels of nicotine relative to tar, low levels
23 of nicotine relative to tar, and also almost no
24 nicotine, and we've done that in many different
25 embodiments in different cigarette designs and our

1 overall conclusion is that nicotine is one, but not
2 the only, important element in cigarette smoking,
3 and further if we find that if the nicotine to tar
4 ratio is high, those products are unacceptable. If
5 the nicotine to tar ratio is low, those products
6 are unacceptable, and products with almost no
7 nicotine are extremely unacceptable.

8 Q. In product development you have developed
9 test products with almost no nicotine; correct?

10 A. We've developed prototypes that have
11 extremely low levels of nicotine relative to the
12 tar level.

13 Q. You could actually develop a cigarette
14 that doesn't have any nicotine in it, couldn't you?

15 A. Well, in any, may sound like -- sounds to
16 me like a black and white term. I think as long as
17 there's tobacco, you can remove most of the
18 nicotine, but I think there will always be trace
19 levels there. But from a practical standpoint, I
20 think you can remove most of it, essentially all of
21 it, but there will always be some there.

22 Q. But RJ Reynolds has found that if you
23 remove just about all the nicotine, people won't
24 buy the product; correct?

25 A. Well, that's been the results of our

1 consumer studies of prototypes that have normal
2 levels of tar and very, very low levels of
3 nicotine. It's also been the experience I think of
4 one of our major competitors who test marketed a
5 product similar to that and found it to be not
6 consumer acceptable.

7 MR. LATHAM: John, we've been going about
8 an hour, can we take about a five-minute break?

9 MR. HOAG: Sure.

10 (A recess was taken.)

11 BY MR. HOAG:

12 Q. Do the people who have smoked the Eclipse
13 products on the average take more puffs of the
14 cigarette than those people who smoke standard
15 commercial cigarettes or reference cigarettes?

16 A. I think in general that's true, smokers
17 of Eclipse tend to take more puffs; however, the
18 delivery from Eclipse is quite different in many of
19 those puffs that they take on the front -- on the
20 early puffs or on the latter puffs really don't
21 deliver much smoke, it's quite different, but the
22 answer to your question is yes.

23 Q. Does taking more puffs deliver more
24 nicotine?

25 A. In general, that's true. If you take

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1 more puffs on a cigarette, you will get more tar
2 and nicotine.

3 Q. The Eclipse product is going to be --
4 ratio wise, you're going to get more nicotine as
5 compared to the tar; correct?

6 MR. LATHAM: Object to the form of the
7 question.

8 A. For Eclipse there is -- the tar yield is
9 say in the neighborhood of -- well, for one of the
10 versions is about 3 milligrams and the nicotine
11 yield is about .3. The difference between Eclipse
12 and a tobacco-burning cigarette is the nature of
13 that tar is quite different, but the overall tar
14 yield, the ratio of tar to nicotine is in the same
15 ballpark as tobacco-burning cigarettes, just the
16 chemical nature of the tar is different.

17 Q. The chemical nature of the nicotine is
18 not different; correct?

19 A. Chemically, nicotine is nicotine.

20 Q. But, chemically, tar is not tar?

21 A. Well, tar is a collection of
22 constituents, many constituents from a
23 tobacco-burning cigarette. From Eclipse the
24 chemical composition of the tar is quite different
25 and is primarily glycerin, not combustion products

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1 from burning tobacco.

2 Q. But the chemical composition of the
3 nicotine is the same, correct?

4 A. Well, again, chemically, nicotine is
5 nicotine, so it's the same molecule.

6 Q. So then smokers of Eclipse are getting a
7 similar amount of nicotine as compared to a
8 commercial cigarette then; is that correct?

9 MR. LATHAM: Object to the form of the
10 question.

11 A. Again, the nicotine yield from the
12 Eclipse is quite low compared to most of the
13 tobacco-burning products in the U.S. market, it's
14 only about .3 milligrams per cigarette. And so the
15 answer is they get nicotine but in general it's
16 lower than most of the products sold on the U.S.
17 market.

18 Q. By taking more puffs on the Eclipse
19 cigarette, they're getting in more nicotine than
20 the .3; is that correct?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. In general, depending on how they smoke
24 that cigarette, they may get more or less even. So
25 if they take a lot of puffs, take very frequent

1 puffs, they can get more nicotine than .3, but
2 that's the same situation with tobacco-burning
3 products.

4 Q. The RJR research show that people who
5 smoke the Eclipse take more puffs per Eclipse
6 cigarette than people who smoke other brands of
7 cigarettes; correct?

8 A. I think in general that's true.
9 Individual smoking behavior varies widely, but, in
10 general, that's true. The nicotine yield from
11 Eclipse is still quite low compared to
12 tobacco-burning products.

13 Q. Hypothetically, in your position as vice
14 president for RJR if you knew that cigarette --
15 that nicotine is addictive, meaning the reason
16 people continue to smoke is because they crave the
17 nicotine and it has a pharmacological effect to
18 them that enhances -- that affects their mood and
19 causes them to be compelled to continue smoking, if
20 that was all true, would it in any way affect
21 product development at RJ Reynolds?

22 MR. LATHAM: Object to the form of the
23 question.

24 A. Well, I really don't agree with your
25 hypothesis that, my words, that nicotine is the

1 only reason people smoke and it compels them to
2 smoke. I think nicotine is an important part of
3 the smoking experience. Obviously, cigarettes
4 without nicotine are not acceptable, so it's
5 important, but it's not the only reason people
6 smoke.

7 I do believe also that smoking is not
8 addictive in the sense that you're using it because
9 people can quit and they do quit. But, certainly,
10 nicotine is important to the smoking process, but
11 it's not compelling people to smoke in my opinion.

12 BY MR. HOAG:

13 Q. That wasn't my question.

14 A. I know, but it was your hypothesis and
15 I'm just saying I couldn't --

16 Q. Again, you disagree with the hypothesis?

17 A. That's correct.

18 Q. My question is: Assuming the hypothesis
19 is correct, would that have any impact on product
20 development for RJ Reynolds?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. Well, I really don't know the answer to
24 your hypothetical question, first of all, because I
25 don't believe that hypothesis is correct and,

1 second of all, I don't know what the company would
2 do in product development if that were correct.

3 BY MR. HOAG:

4 Q. Aside from not removing the nicotine in
5 the Eclipse, are there any other substances that
6 happen to be considered to be dangerous by the
7 surgeon general of the United States that have not
8 been removed from the Eclipse?

9 MR. LATHAM: Object to the form of the
10 question.

11 A. I don't know what you mean by removed.
12 Nicotine is reduced substantially compared to
13 tobacco-burning products.

14 BY MR. HOAG:

15 Q. I'm talking about -- you know, you talked
16 about removing the tar, at least the tar that's for
17 the most part biologically active; correct?

18 A. We've talked about removing many or
19 reducing many of the constituents in tar in making
20 the tar chemically quite different. The way I
21 would characterize Eclipse smoke based on all of
22 our analytical chemistry is that there are major,
23 major reductions in virtually all of the -- or
24 almost all of the smoke constituents, and, in fact,
25 we've tried to convey this information to

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1 scientists outside of Reynolds using pie charts
2 where if one looks at the composition of tar from a
3 tobacco-burning cigarette, roughly 80 percent of
4 the weight of the tar from tobacco-burning
5 cigarettes is combustion products or products in
6 materials from tobacco, and 20 percent is glycerin
7 and water.

8 The smoke from Eclipse is almost exactly
9 the reverse of that and by weight is about 80
10 percent glycerin and water and only about 20
11 percent or less products of combustion and products
12 or materials that are transferred directly from
13 tobacco. So the chemistry of the smoke is quite
14 different.

15 I wouldn't, however, say that any of
16 these constituents are completely removed from the
17 smoke, which I think is the troublesome part of
18 your question for me, because with very sensitive
19 analytical methodologies, I think we can detect
20 extremely trace level amounts of pretty much the
21 same of all the constituents. They're just present
22 in a lot lower quantities.

23 Q. What's the reason that Reynolds didn't
24 just remove all of the nicotine from the Eclipse
25 cigarette given the fact that they were able to do

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1 that, essentially remove all the nicotine?

2 A. One can obviously remove almost all the
3 nicotine as we talked about before. If we did that
4 for Eclipse, that product in our judgment would not
5 be consumer acceptable. As I said before, I think
6 nicotine is a very important element of cigarette
7 smoking. All of the work that we've done to date
8 shows that products with almost no nicotine are not
9 consumer acceptable. It is important for the
10 smoking process.

11 Q. Without the nicotine, people wouldn't
12 continue to smoke cigarettes; correct?

13 A. Well, that's quite a broad question. If
14 as long as they have in the marketplace products
15 that are more consumer acceptable to them, that's
16 what they're going to buy. Nicotine is important
17 to consumer acceptance.

18 Q. Aside from being pharmacologically
19 active, nicotine also irritates the oral cavity;
20 correct?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. Well, again, there's a sensory component
24 of nicotine in the oral cavity. It's judged by
25 many people to be irritating, but it's certainly a

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1 sensory response.

2 BY MR. HOAG:

3 Q. So is it your opinion that the reason
4 people want the nicotine is to get that irritation
5 in the oral cavity?

6 MR. LATHAM: Object to the form of the
7 question, mischaracterizes his testimony.

8 A. All I'm saying is that that's what
9 smokers tell us. I do believe, as we've already
10 talked about, nicotine has a physiological
11 component, and I don't know -- I'm not an expert in
12 this area to know which is more important, and
13 it -- frankly, from my experience with smokers in
14 evaluating or talking with smokers and evaluating
15 response to products, there's a wide, extremely
16 wide variation in characteristics that are
17 important to the various smokers. The important
18 attributes for smokers vary widely.

19 BY MR. HOAG:

20 Q. Are you saying that consumers tell you,
21 and by you I mean the company, that the reason they
22 want the nicotine in the cigarette is because of
23 the irritation it causes in their oral cavity?

24 A. No, that's not what I'm saying at all. I
25 don't think smokers -- I'm not aware of studies or

1 seen studies where smokers say that they want
2 nicotine in the cigarette. I think what we've done
3 is evaluated various prototypes that have different
4 levels of nicotine down to almost none and measured
5 their overall acceptance, purchase intent, as well
6 as tried to gauge some of their attribute ratings.
7 And, you know, so consumers don't come back and
8 pinpoint to us, hey, wait a minute, the nicotine
9 level is too high or too low or I want more
10 nicotine. What they do is they tell us, I like
11 this cigarette, I like the way it smokes, I like
12 the taste of it, I would buy it, it's acceptable to
13 me. There are a lot of factors that go into that.

14 Q. Basically, when somebody puffs on a
15 cigarette, nicotine molecules crash in the nerve
16 ending in the back of the throat; correct?

17 MR. LATHAM: Object to the form of the
18 question.

19 BY MR. HOAG:

20 Q. That's one of the things that happen;
21 correct?

22 A. Again, I'm not a biologist or a
23 toxicologist, but I think superficially the
24 nicotine as well as other constituents of smoke
25 elicit a sensory response certainly through

1 interaction with certain receptors or nerves.

2 Q. The regular commercial cigarette, I'm not
3 talking about the Eclipse right now, it's already
4 known carcinogens that are swept into the alveoli
5 which is a membrane, sponge-like membrane, in the
6 lung, correct, if somebody inhaled a cigarette?

7 MR. LATHAM: Object to the form of the
8 question.

9 A. For tobacco-burning cigarettes, there's a
10 large variety of constituents present. Some of
11 those constituents are thought to be carcinogenic
12 to animals, a few are possible human carcinogens.
13 But, in any event, they're present in cigarette
14 smoke at very low levels.

15 BY MR. HOAG:

16 Q. When that cigarette is inhaled, those
17 carcinogens get swept into the sponge-like membrane
18 of the human lung; correct?

19 MR. LATHAM: Object to the form of the
20 question.

21 A. When a smoker inhales cigarette smoke,
22 the constituents that are in that smoke obviously
23 go into the lung and the upper respiratory tract.

24 BY MR. HOAG:

25 Q. Now, the carbon monoxide in the smoke

1 negatively affects the ability of the person to get
2 oxygen, correct, they affect the hemoglobin level;
3 right?

4 MR. LATHAM: Object to the form of the
5 question. John, would you speak up a little bit
6 and move a little closer, you're starting to drift
7 away.

8 A. Again, I'm not an expert in biology or
9 toxicology. My understanding is that when anyone
10 inhales carbon monoxide, it reduces oxygen
11 transport capabilities to the blood through the
12 formation of carboxyhemoglobin.

13 BY MR. HOAG:

14 Q. That all happens in about three seconds
15 from the time a person first inhales a cigarette;
16 correct?

17 A. I don't know.

18 Q. Now, the nicotine gets deposited in
19 tissues throughout the body; correct?

20 A. Throughout the body?

21 Q. Yes.

22 A. I don't know.

23 Q. It does -- you do know that nicotine goes
24 across what is known as the blood brain barrier;
25 correct?

1 A. I know that nicotine when inhaled, a
2 portion of that will cross -- well, will go from
3 the lung to the brain.

4 Q. Then the membrane that's designed to
5 filter the substance from the brain keep it in the
6 brain; correct?

7 A. Again, I don't know.

8 Q. Now, nicotine affects about a dozen types
9 of receptors in the brain; correct?

10 A. I don't know.

11 Q. It takes about ten seconds for the
12 nicotine to get to the brain; correct?

13 A. I don't know. This is really outside my
14 area, you know. Frankly, I don't know.

15 Q. Are these things that you should know in
16 order to be able to be the best possible vice
17 president for product development --

18 MR. LATHAM: Object to the form of the
19 question.

20 BY MR. HOAG:

21 Q. -- in your opinion?

22 A. My opinion is that to do my job for this
23 company, I don't need to be a biologist. I do need
24 to have some general awareness of some biological
25 issues and we have experts at Reynolds who do know

1 details about some of the subjects that you're
2 talking about. I rely on them to be experts in
3 their area.

4 Q. They provide you with information about
5 the physiological effects of nicotine; correct?

6 A. We have scientists at Reynolds who of
7 studied the physiological effects of nicotine, have
8 published papers and really become first class
9 scientists in the area.

10 Q. Do you supervise any of those scientists?

11 A. No, I don't.

12 Q. Do you have the ability to have contact
13 with those scientists?

14 A. Of course.

15 Q. Have you ever had any discussions with
16 those scientists about the physiological effects of
17 nicotine?

18 A. Yes.

19 Q. What's your understanding of the
20 physiological effects of nicotine?

21 A. That nicotine -- this is quite general
22 and it's quite superficial, but nicotine certainly
23 when inhaled transfers to the blood, can transfer
24 to the brain quite rapidly, there are receptors in
25 the brain that nicotine is active for. Also

1 nicotine physiologically causes some changes in the
2 cardiovascular system as a result of all this.

3 Q. Is nicotine a drug?

4 A. Well, that depends on definition.
5 Nicotine certainly exhibits a mild pharmacology.
6 It is a naturally occurring material in tobacco. I
7 look at nicotine in tobacco as not a drug.
8 Obviously, if nicotine is extracted and purified
9 and used in some form as a pure compound, for
10 example, in a patch, certainly the government has
11 looked at it as a drug. It may well be in that
12 use.

13 Q. Does that mean then you also do not
14 consider marijuana to be a drug?

15 MR. LATHAM: Object to the form of the
16 question.

17 A. Well, again, I'm not an expert in this.
18 I think this is a matter of definition or semantics
19 even. You know, it's just the way I've looked at
20 nicotine.

21 BY MR. HOAG:

22 Q. Well, to the extent that marijuana is a
23 naturally occurring substance, does that mean that
24 it is not a drug?

25 A. Well, I suspect the active ingredient of

1 marijuana is physiologically active, it is
2 naturally occurring, and I think this is all a
3 matter of definition.

4 Q. Right. The way you're defining it,
5 marijuana wouldn't be a drug; correct?

6 A. If the definition is that a drug is
7 something -- is a compound that's physiologically
8 active, then nicotine is certainly a drug. If the
9 definition is more of the use-related definition,
10 which is the one I was trying to convey to you,
11 that if a compound is used for a particular purpose
12 in a purpose vehicle of administration in pure form
13 or for a certain purpose, then the government may
14 from a regulatory point of view consider it as a
15 drug. This is all a matter of definition and I'm
16 not an expert in this.

17 Q. My question was related to your prior
18 response which was that you said in your opinion
19 since nicotine is naturally occurring in tobacco,
20 it is not a drug; correct?

21 A. That's what I said and it was, again, by
22 definition and also relates to at least, up until
23 this point, the government's approach or position
24 on regulation of tobacco products.

25 Prior to now, the government has looked

1 at tobacco products as nicotine and tobacco
2 products is not a drug. They have regulated
3 nicotine in pharmaceutical devices like nicotine
4 patch and nicotine gum.

5 So my answer really is along the lines of
6 the way the government historically has looked at
7 this.

8 Q. So if the government historically had not
9 considered marijuana to be a drug, then it wouldn't
10 be a drug; is that correct?

11 MR. LATHAM: Object to the form of the
12 question.

13 A. Again, this is a matter of definition.
14 If the government had concluded that it was not
15 going to regulate or in any way deal with marijuana
16 as a drug, then by definition it wouldn't be a
17 drug. This is a matter of definition.

18 BY MR. HOAG:

19 Q. So you're just using whatever definition
20 the FDA happens to be using or happened to be using
21 at one time; is that correct?

22 MR. LATHAM: Object to the form of the
23 question, John, it's argumentative.

24 MR. HOAG: I'm trying to understand.

25 A. So am I. You know, I'm not a lawyer, I'm

1 not a regulatory expert, certainly not a government
2 official. You know, all I can do is as a layman
3 try to understand how the government has looked at
4 things and historically that's the way the
5 government has looked at tobacco products. It may
6 well change in the near future.

7 Q. As a person with a Ph.D. in chemistry who
8 work for the tobacco industry for 20 years, who's
9 the vice president for RJR, you consider nicotine
10 as it occurs in tobacco and cigarettes to be a
11 drug?

12 A. If a drug is any compound that's
13 physiologically active, the answer is yes. If
14 nicotine -- if that's not the definition and we use
15 the historical approach by the government, then the
16 answer is no. I certainly believe, which is
17 really -- this gets to the essence of the
18 questioning, is that nicotine is physiologically
19 active. Whether or not that's a drug or not, I
20 can't speak to that because that's a matter of
21 definition.

22 Q. Well, even though you're a person with a
23 Ph.D. in chemistry who's worked for the tobacco
24 industry for 20 years, who's the vice president for
25 RJR, you can't speak to whether or not nicotine is

1 a drug?

2 MR. LATHAM: Object to the form of the
3 question, it's argumentative, John. It's asked and
4 answered also.

5 A. It depends on the definition of drug,
6 doesn't it?

7 If you drink a coke and it has carbon
8 dioxide in it, the carbon dioxide is
9 physiologically active. Is it a drug?

10 Coke happens to have caffeine in it or
11 coffee has caffeine in it. Is caffeine a drug? It
12 is certainly physiologically active. Caffeine is
13 physiologically active in similar ways to nicotine
14 actually. Is it a drug? It's a matter of
15 definition.

16 BY MR. HOAG:

17 Q. Well, cocaine is similarly active to --
18 similar to nicotine in how it affects the receptors
19 in the brain, isn't it?

20 A. I don't know that at all.

21 Q. You don't know that because you're not an
22 expert in how cocaine affects the brain; correct?

23 A. I'm not a biologist, I'm not a
24 toxicologist, I don't understand or know how
25 cocaine or nicotine are physiologically active in

1 the brain. I don't know the details of any of
2 that.

3 As a lay person in that area, I do know
4 that cocaine is an illegal drug. It is a powerful
5 illegal drug that has very negative consequences to
6 humans.

7 Q. Cocaine has toxicological effects. What
8 substance -- for example, if you take crack
9 cocaine, do you know what substance creates the
10 physiological effect?

11 MR. LATHAM: John, all these questions
12 have been asked and answered. Dr. Townsend is an
13 expert in cigarette design not cocaine or the
14 pharmacology of --

15 MR. HOAG: I haven't asked this question
16 before and I'd like him -- if he doesn't know the
17 answer --

18 A. I don't understand it. I don't know. I
19 mean, I understand your question, I don't
20 understand the area, and I don't know the answer.

21 Q. Do you have any communication with the
22 FDA or any of its representatives?

23 A. What kind of communication are you
24 talking about?

25 Q. Oral or written.

1 A. Presently, I am not communicating at all
2 with the FDA.

3 Q. Did you at one time?

4 A. I've given a presentation which lasted
5 several hours to a group from the FDA when they
6 visited RJ Reynolds in, I guess it was 1994.

7 Q. What was the presentation about?

8 A. Cigarette design.

9 Q. Now, has the FDA changed its position on
10 the definition of nicotine as a drug?

11 MR. LATHAM: Object to the form of the
12 question.

13 A. I don't know. I don't know what the
14 current FDA position is on that or what they're
15 going to -- I don't know what's going to happen.

16 BY MR. HOAG:

17 Q. You know what the FDA position used to
18 be, though; correct?

19 A. I don't know what the FDA position used
20 to be. I know that Congress in establishing a
21 position on tobacco products has chosen not to give
22 FDA authority over tobacco products and treat
23 tobacco products as a drug. That's the historical
24 situation.

25 Q. But that doesn't mean tobacco products

1 aren't a drug, does it?

2 A. That's not what I said.

3 Q. I'm just asking. That doesn't mean
4 tobacco products are not drugs; correct?

5 MR. LATHAM: Object to the form of the
6 question, John. We're getting into definitions
7 here again.

8 A. All I'm saying is that historically
9 that's Congress's position on it, FDA did not have
10 authority or jurisdiction over tobacco products.
11 That may well is going to change --

12 BY MR. HOAG:

13 Q. Does the FDA today have authority or
14 jurisdiction over tobacco products?

15 A. That may well is going to change and it
16 may well be that there's new definitions placed on
17 the table.

18 Q. Regardless of how Congress defines things
19 now or in the future, the scientists at RJR have
20 known for decades that nicotine is
21 pharmacologically active; correct?

22 MR. LATHAM: Object to the form of the
23 question.

24 A. I think it's fair to say that scientists
25 at RJ Reynolds as well as scientists around the

1 world in other institutions and in universities
2 have known that nicotine is physiologically active.

3 BY MR. HOAG:

4 Q. They also have known, meaning scientists
5 at RJR, that if you remove the nicotine from the
6 cigarette, people won't buy the cigarettes;
7 correct?

8 MR. LATHAM: Object to the form of the
9 question.

10 A. In our product development efforts, as
11 I've already said this morning, in our product
12 development efforts, consumers tell us that
13 products with extremely low levels of nicotine are
14 not acceptable. And my conclusion from that, as
15 well as many of the scientists I work with, is that
16 nicotine is one important element of cigarette
17 smoking, it's not the only.

18 BY MR. HOAG:

19 Q. It's a necessary component of cigarettes;
20 correct?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. To achieve consumer acceptance, it
24 appears to be necessary at some level.

25 BY MR. HOAG:

1 Q. Well, actually, RJR knows what level that
2 is; correct?

3 A. What level?

4 Q. Right, of nicotine is acceptable to
5 consumers and what isn't?

6 A. What we know is if one removes nicotine
7 leaving only very low levels, those products are
8 not consumer acceptable. As far as levels above
9 that, there are a variety of levels of nicotine and
10 tar that are available in the commercial market and
11 different smokers choose different products with
12 different levels.

13 Q. RJR knows that to get any consumers to
14 purchase cigarettes, you have to have at least .3
15 milligrams of tar?

16 MR. LATHAM: Object to the form of the
17 question.

18 BY MR. HOAG:

19 Q. Is that correct?

20 A. .3 milligrams of tar?

21 Q. I'm sorry, of nicotine.

22 A. No, RJ Reynolds does not know that.
23 There are products on the market, tobacco-burning
24 and primarily tobacco-heating, that have lower
25 levels. If one removes almost all the nicotine,

1 those products are not consumer acceptable. But
2 there's a range of products in the market that have
3 different levels, different degrees of consumer
4 acceptance that have widely different nicotine
5 levels.

6 Q. What's the lowest level of nicotine
7 acceptable to a consumer as far as the purchase and
8 use of cigarettes is concerned?

9 A. Let's look at commercial products that
10 are in the U.S. market. The lowest level, the
11 lowest tar level product that I'm aware of is
12 about -- well, let's talk about the ones that have
13 consumer acceptance or reasonable sales. Very
14 popular ULT products have 1 and 2 milligrams of
15 tar, those are products like Carlton and Now, have
16 1 to 2 milligrams of tar and about .1 to .2
17 milligrams of nicotine. That happens to be about
18 the same nicotine level as the denicotinized
19 products that our competitors placed on test market
20 and also of the prototypes that we evaluated in our
21 efforts to respond to our competitors.

22 Q. What percentage of the consumers who
23 smoke cigarettes purchase those cigarettes with the
24 .1 to .2 level of nicotine?

25 A. Well, it's not a large percentage of the

1 overall market. I would say it would be less than
2 5 percent, but there are people who prefer those
3 products and they consistently buy them.

4 Q. Carlton is an example you gave. Who is
5 the manufacturer of Carlton?

6 A. Carlton used to be marketed my American
7 Tobacco Company. Of course, they're owned or they
8 were purchased, I suppose, by Brown & Williamson.
9 So Brown & Williamson owns the Carlton brand at
10 this point.

11 Q. What is the brand or what brands are
12 comparable that RJR produces?

13 A. We market, manufacture and market a Now
14 product that has comparable levels of tar and
15 nicotine.

16 Q. How is that marketed?

17 A. In what way?

18 Q. That's what I want to know. In what way
19 is Now marketed?

20 A. Well, we market it through normal
21 distribution channels to the normal distributors,
22 place advertising in the stores as normal, our
23 advertising -- if that's what you mean, our
24 advertising talks about the lowest tar levels.

25 Q. Now, lowest tar levels in advertisement,

1 that's clearly implying that the health risk is
2 decreased; correct?

3 MR. LATHAM: Object to the form of the
4 question. It's calling for a legal conclusion.

5 BY MR. HOAG:

6 Q. Correct?

7 A. Well, I think advertising Now is lowest
8 tar speaks to issues that are important to smokers
9 and smokers believe that lower tar is better than
10 higher tar.

11 Q. It's a lower risk, health risk; correct?

12 A. Well, that may be the consumers' take on
13 it. I think historically for decades the consumer
14 has assumed that and, in fact, the consumer has
15 been told that by various surgeons general as well
16 as Consumers Union and a variety of other places.

17 Q. Like the Eclipse where people puff more
18 than regular cigarettes, people who use low tar or
19 cigarettes products that are labeled as low tar
20 generally inhale more deeply than other cigarette
21 smokers; correct?

22 MR. LATHAM: Object to the form of the
23 question.

24 A. I've never seen clear evidence that they,
25 in fact, inhale more deeply. They certainly may

1 puff differently than a smoker -- on the average, a
2 smoker of a much higher tar level product. But
3 inhalation patterns, I'm not sure that there's
4 strong data to show that ULT smokers, in fact,
5 inhale more deeply.

6 BY MR. HOAG:

7 Q. ULT, you're using that as ultra?

8 A. I'm sorry. ULT is my nomenclature, ultra
9 low tar, I apologize.

10 Q. Of course, the tar measurement that's on
11 the package of cigarettes is a machine measurement,
12 not an actual human measurement; correct?

13 A. The quoted tar and nicotine numbers for
14 any brand that's advertised, in fact, are machine
15 measures according to the Federal Trade Commission
16 protocol.

17 Q. Did the Federal Trade Commission develop
18 that terminology, ultra light, light, to describe
19 the tar content?

20 A. I'm not entirely sure. My opinion is I
21 don't think so. I think the industry developed
22 that. That terminology has been around for quite
23 awhile.

24 Q. Everybody in the tobacco industry uses
25 that terminology, ultra light and light, to

1 describe tar content; is that correct?

2 A. I would say generally that's right,
3 everybody in the industry uses the terminology
4 ultra low tar and, in fact, I think it's gotten to
5 where now the Federal Trade Commission and others
6 outside the industry will use that terminology. My
7 guess is it was started however in the industry.

8 Q. As a representative of RJR, vice
9 president of scientists, you know that consumers
10 consider the ultra label to mean that the cigarette
11 is safer than other cigarettes; correct?

12 MR. LATHAM: Object to the form of the
13 question.

14 A. I think some smokers probably assume that
15 less intake is better. They've been told that
16 again by various surgeons general, by various
17 health groups, and other scientists that lower tar
18 might be better for them. That's opinions that
19 many smokers may have developed over decades.
20 Whether or not that's true, I'm not sure.

21 BY MR. HOAG:

22 Q. Now, the truth is that the idea that low
23 tar cigarettes are safer is misleading because
24 people change the way they smoke them; correct?

25 A. Object to the form of the question.

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1 Well, you're getting into an area that we in the
2 industry call compensation and I think all the
3 evidence that I've seen so far and the work that
4 we've done at Reynolds suggests that smokers of low
5 and ultra low tar products, especially ultra low
6 tar products, will overall in spite of some
7 compensation get less.

8 Q. Well, the milder cigarette, the more
9 likely the smoker is to inhale deeply into the
10 lungs; correct?

11 MR. LATHAM: Object to form of the
12 question.

13 A. Again, I'm not aware of strong evidence
14 that ULT smokers inhale more deeply. I think there
15 is evidence that they may puff more frequently or
16 take larger puff volumes to a degree. But even
17 with that there is strong evidence in the
18 literature and internal to Reynolds that even with
19 that kind of compensation which is not complete,
20 smokers of ULT products will tend to get less tar
21 on inhalation.

22 BY MR. HOAG:

23 Q. They don't get the amount of tar that's
24 placed on the package, they get more than that;
25 correct?

1 A. I think the numbers that are advertised
2 by the FTC protocol were developed -- that protocol
3 was developed by the FTC to provide a relative
4 comparison for smokers to make choices in the
5 marketplace. The FTC knew and acknowledged that
6 that machine measure never intended to represent
7 what smokers actually get. It was a relative
8 comparison only. Smokers who compensate, certainly
9 if they compensate upward, will get more tar and
10 more nicotine than you would guess based on the
11 numbers, but they still -- ULT smokers as a group,
12 there's evidence that they get still less than if
13 they smoked a higher tar product in spite of the
14 compensation.

15 Q. Where do they put that on the cigarette
16 package that this number was never intended to
17 represent the amount of tar you would actually get
18 as a smoker?

19 A. That statement?

20 Q. Yes.

21 A. Of course, that statement is not on the
22 cigarette package, but it has been repeated
23 numerous times by the FTC commissioner, in public
24 forums, and in government forums. It's been in
25 some publicly available information like Consumers

1 Union from long ago. There are a variety of
2 places. It's not on the package as you suggest, of
3 course.

4 Q. Now, the tobacco industry relies on
5 government agencies to let people know that what
6 they're advertising is not, in fact, what they're
7 getting; correct?

8 MR. LATHAM: Object to the form of the
9 question.

10 BY MR. HOAG:

11 Q. Is that correct?

12 A. I don't understand your question. Can
13 you say that again?

14 Q. Well, the tobacco companies rely on
15 government agencies to let the public know that
16 what they advertise in the cigarette is not, in
17 fact, what they're getting as far as the amount of
18 tar is concerned; is that correct?

19 A. Well, I think frankly that's a bit
20 oversimplistic. I think if you go out and talk to
21 a group of smokers, I think you'll find that
22 smokers are generally aware that if they puff hard
23 on a cigarette, they're going to get more tar. If
24 they puff very light on a cigarette, they're
25 probably going to get less tar. I think there's a

1 general awareness of that among consumers anyway,
2 and there are many, many anecdotes that we could go
3 through to speak to that. So it's common knowledge
4 in my opinion.

5 Q. Is it common knowledge among smokers that
6 the level of adenocarcinoma is increased as a
7 result of smoking so-called low tar cigarettes?

8 MR. LATHAM: Object to the form of the
9 question.

10 A. That's a scientific theory that's in the
11 scientific literature and I'm sure that most
12 smokers aren't aware of that particular scientific
13 theory.

14 BY MR. HOAG:

15 Q. Are not aware of it?

16 A. My guess would be that most smokers are
17 not aware of that particular scientific theory
18 that's been in the scientific literature. I do
19 know that theory hit Popular Press not too long ago
20 in a couple of articles, but again I'm not an
21 expert on consumer awareness of that particular
22 information.

23 Q. You do know that in the United States
24 where the low tar cigarettes were introduced in the
25 1950's, the number of cases of adenocarcinoma have

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1 overtaken rates of other forms of lung cancer which
2 are currently in the bronchi which is the main tube
3 supplying the lungs with air, with smoke; you are
4 aware of that, correct?

5 MR. LATHAM: Object to the form of the
6 question.

7 A. I'm generally familiar with the notion
8 that adenocarcinoma rates in the U.S. have
9 increased over time. Low tar -- particularly, low
10 tar cigarettes were first introduced in the '70s,
11 not the '50s. The '50s to the '70s showed a
12 gradual decline in overall tar. But very low tar
13 products weren't really generally available until
14 the '70s.

15 And again I'm not an expert in this area,
16 but I'm asked, I think, a scientific question. If
17 adenocarcinoma increases are due to the increase in
18 ULT levels or very low tar cigarettes, then
19 wouldn't we still not see an increase in
20 adenocarcinoma because of long delay times in these
21 types of chronic diseases if that were a cause of
22 it.

23 BY MR. HOAG:

24 Q. Filtered cigarettes were introduced in
25 the 1970's; correct?

1 A. In 1954 was the introduction of the first
2 largely successful filtered cigarette.

3 Q. Those were advertised as decreasing the
4 tar rate; correct?

5 A. I think the very first introduction of
6 the filtered cigarette was introduced as a filtered
7 cigarette, not as a lower tar cigarette. I think
8 subsequent to that as the filter efficiency was
9 improved, then I think reduced tar was included in
10 some advertisement.

11 Q. So the filtered cigarettes that came out
12 first were just filters that there was no
13 implication in any way in the ads that the filters
14 were actually filtering out some of the tar; is
15 that correct?

16 A. If one puts a filter on a cigarette,
17 certainly there's going to be some filtration of
18 the tar.

19 Q. So the decrease in the tar cigarettes
20 were introduced in the 1950's; correct?

21 A. So what I'm saying is even with the
22 filter, the very first filters weren't as efficient
23 as today's filters. So the reduction in tar wasn't
24 nearly as great.

25 Q. It did have a reduction in tar that was

1 advertised in the 1950's; correct?

2 MR. LATHAM: John, Dr. Townsend hadn't
3 completed his answer to the last question. I'd
4 appreciate it if you'd pause a second before your
5 next question to let him finish.

6 BY MR. HOAG:

7 Q. Okay. Go ahead.

8 A. In 1954 when Winston was introduced as
9 the first successful filtered cigarette, the filter
10 that was used wasn't a terribly efficient filter.
11 So the tar yield was at best reduced only to a
12 small degree. As filter efficiency improved over
13 subsequent years, then the tar level began dropping
14 more greatly.

15 Now, the inclusion of other cigarette
16 design techniques like air dilution and expanded
17 tobacco then caused further reductions in tar and
18 nicotine. But in the very early days of filtered
19 cigarettes, the tar reduction, while it certainly
20 was there because the filters do remove tar and
21 nicotine, the reduction wasn't as great. I know
22 that -- I haven't reviewed all of the advertising
23 of filtered cigarettes over the '50s and '60s, I
24 know that some advertising spoke to tar reduction,
25 some spoke to just the use of filters.

1 Q. Smoking a mild brand, meaning a low tar
2 brand, they inhale more deeply and expose a larger
3 surface of lung tissue to cancer-causing agents;
4 correct?

5 MR. LATHAM: Object to the form of the
6 question, asked and answered.

7 A. I don't know.

8 BY MR. HOAG:

9 Q. You do know that smokers of so-called low
10 tar cigarettes suffer tumors further away from the
11 main airway than are normal with stronger
12 cigarettes; correct?

13 A. I don't know.

14 Q. You do know that adenocarcinoma became
15 the most common lung cancer in the United States in
16 the 1980's; correct?

17 A. Adenocarcinoma became the most prevalent
18 lung cancer in the United States in the 1980's; is
19 that what your question is?

20 Q. Yes.

21 A. I don't know.

22 Q. Now, you said that your opinion is that
23 the really low tar cigarettes were introduced in
24 the 1970's; is that correct?

25 A. Well, the first successful low tar, real

1 low tar compared to the rest of the market at that
2 time was Vantage, and it had a tar yield that was
3 less than 10, it was about 9, whereas the rest of
4 the market was somewhat higher around -- at that
5 time it was around 16 to 18 milligrams on the
6 average. So it was essentially the first cigarette
7 in a low tar category whereas prior to that pretty
8 much the entire market had moved to lower and lower
9 tars. Do you understand the distinction?

10 Q. I'm not really going to be able to answer
11 questions about what I understand.

12 A. Okay. I'm just trying to help and make
13 sure it's clear.

14 Q. I just want your responses to these
15 questions.

16 You are aware that smokers of the
17 so-called low tar brand keep up their level of
18 nicotine intake by increasing the number of
19 cigarettes smoked every day?

20 MR. LATHAM: Object to the form of the
21 question.

22 A. I don't know to what degree that may or
23 may not be true. I do know that our lowest tar
24 products have a very low market share. So I mean
25 it's hard for me to agree that ULT smokers always

1 smoke more cigarettes per day as a form of
2 compensation.

3 BY MR. HOAG:

4 Q. Do they tend to smoke more cigarettes per
5 day than other smokers? Always, of course, as you
6 would say very broad. When I'm asking the
7 question, I'm talking about general tendencies of
8 smokers, they tend to smoke more cigarettes a day
9 than other smokers?

10 A. That may be for some people. I don't
11 know that that's a general rule. I can speak from
12 experience because I've switched -- I'm a smoker
13 and I've switched some time ago from a lights
14 product at roughly 10 milligrams per cigarette down
15 to an ultra lights product at roughly 5 milligrams
16 per cigarette, and my daily consumption today is
17 the same or less than it used to be with the higher
18 tar products because I know what I buy.

19 Q. And you know the types of questions
20 you're answering in this deposition too; correct?

21 MR. LATHAM: Objection, argumentative.

22 A. No. I'm just trying to give you a
23 personal example where I know that your hypothesis
24 is not the case. For some people your hypothesis
25 may be the case. I just can't generalize across

1 all smokers.

2 BY MR. HOAG:

3 Q. So for a vice president for RJR who's a
4 scientist working for that company for 20 years or
5 so, your personal experience is that you don't
6 smoke the cigarettes that way; correct?

7 A. Well, let's be rigorous. By me not
8 smoking the cigarettes that way, I'm not talking
9 about puffing dynamics or puffing behavior. What
10 I've talked about, what your question originally
11 was, was the daily consumption, the number of
12 cigarettes per day, and I told you that when I
13 traded to a product that was roughly half the tar
14 level that I used to smoke, my daily consumption
15 has not gone up; if anything, it's slightly gone
16 down.

17 Q. Now, you've been deposed in several
18 cases; correct?

19 A. Yes, I have.

20 Q. In those cases you're deposed in, that's
21 when was RJR being sued regarding their product;
22 correct?

23 A. That's been the point of all but one of
24 my depositions.

25 Q. Basically, your job is to explain to

1 juries the tobacco company's defense of the
2 lawsuits that are filed against RJR; correct?

3 MR. LATHAM: Object to the form of the
4 question, argumentative.

5 A. I don't agree at all. My job in this --
6 in depositions or in trial is to present as a
7 scientist issues of cigarette design, how RJ
8 Reynolds has addressed smoking and health issues
9 through cigarette design, and to a degree how the
10 industry has responded to smoking and health issues
11 through cigarette design but particularly Reynolds.

12 BY MR. HOAG:

13 Q. Is that in your job description to do
14 that?

15 A. Providing testimony in litigation,
16 whether it's depositions or in trial, is not an
17 official part of my job. I have a real job that
18 I'm responsible for, which frankly is more than a
19 full-time job in itself.

20 Q. You spend maybe 10, 15 percent of all
21 your time working on litigation on cases where RJR
22 is being sued; correct?

23 MR. LATHAM: Object to the form of the
24 question.

25 A. In the past year I've been asked to

1 estimate the percentage of time that I spend in
2 litigation. In 1997, that was a particularly
3 intense year for litigation against the tobacco
4 industry, I estimated somewhere between 10 and 15
5 percent overall across that year I've spent on
6 litigation. Prior to that, it was a very small
7 portion of my time, and even prior to that I wasn't
8 involved in it at all.

9 BY MR. HOAG:

10 Q. Well, if you said, no, I don't want to do
11 this, would you lose your job?

12 MR. LATHAM: Object to the form of the
13 question, it's argumentative.

14 A. I could tell you without question that I
15 would not lose my job. That's not what RJ Reynolds
16 hired me for and that's not my greatest value to
17 this company.

18 BY MR. HOAG:

19 Q. Would you get promoted to vice president
20 if you said, no, I won't testify during litigation?

21 MR. LATHAM: Object to the form of the
22 question, John, it's argumentative.

23 A. I have been promoted to vice president.
24 I am convinced and I know that I was promoted not
25 because of what I did in litigation but because of

1 what I did in my real job as product development
2 and analytical chemistry.

3 BY MR. HOAG:

4 Q. Is testifying in litigation as an expert
5 witness for RJR part of your real job?

6 A. By real, I define my real job as what I
7 was hired by this company to do and what, in fact,
8 I spend my energy, most of my time doing, and it's
9 why I stay at this company because it's a
10 challenge. I like that challenge of trying to
11 design cigarettes to address many issues.
12 That's -- excuse me.

13 Q. Are there any scientists at RJR --

14 A. Let me finish.

15 Q. -- who have concluded that cigarette
16 smoking is addictive?

17 MR. LATHAM: John, let him finish his
18 answer, he wasn't finished.

19 A. I'm sorry, I wasn't finished. That's why
20 I work for this company is for the challenge in
21 doing that job. If my real job were in litigation,
22 I'd be history here because that's not what I'm
23 here for. Now, I'm sorry, you can ask your next
24 question.

25 BY MR. HOAG:

1 Q. Do any scientists at RJR consider
2 cigarette smoking to be addictive?

3 A. I'm not aware of any scientists at RJR
4 who've conclude and have stated, although I haven't
5 polled every scientist at Reynolds, have quite a
6 few, who conclude and state that cigarette smoking
7 is addictive. Like our earlier discussion on a
8 different subject, I think addiction is one of
9 definition and it depends on how you define
10 addiction as to whether you would conclude that
11 cigarette smoking is addictive.

12 MR. LATHAM: John, we've been going about
13 another hour, can we take another five-minute
14 break?

15 MR. HOAG: Sure.

16 (A recess was taken.)

17 BY MR. HOAG:

18 Q. The last time I deposed you, you were
19 smoking about a pack, pack and a half a day of
20 cigarettes. Do you still smoke that much?

21 A. I would say a pack is a fair number. I
22 hardly ever smoke a pack and a half. It varies a
23 lot depending on what I'm doing. For example, on
24 the weekends at home, I generally don't smoke very
25 much. If I've got a lot of desk work, I'll

1 generally smoke more during the week.

2 Q. Why is that if you have a lot of desk
3 work you generally smoke more?

4 A. I guess because I get bored at a desk.
5 Other than that, I don't know, just the way it is.

6 Q. Do you light up a cigarette in the
7 morning?

8 A. Well, sure, I do smoke a cigarette in the
9 morning, sure.

10 Q. Pretty much close to the time you get up
11 you have a cigarette; correct?

12 A. No, that's not true. I have a fairly
13 rigorous morning schedule. I get up quite early,
14 shower and shave, eat breakfast, go collect the
15 newspaper, get everything together, and then get in
16 my car and drive to work. Generally, the first
17 cigarette of the day is in the car on the way to
18 work.

19 Q. How does that first cigarette of the day
20 make you feel?

21 A. I enjoy smoking. I enjoy the first
22 cigarette of the day.

23 Q. Do you enjoy it more than the other
24 cigarettes that you have the rest of the day?

25 A. Well, this is a very subjective

1 question. My reaction to it is, certainly, there
2 are some cigarettes in the day that I enjoy more
3 than others. The first cigarette of the day, a
4 cigarette after meals, I enjoy particularly a
5 cigarette when I'm with friends in the evening
6 sometimes. So there are some that are more
7 enjoyable than others, certainly.

8 Q. Is that first cigarette of the day more
9 enjoyable than others?

10 A. No, I wouldn't say so. I think probably
11 if I had to rank, again this is quite subjective,
12 if I had to rank enjoyment, I would say the
13 cigarette after dinner is probably the most
14 enjoyable.

15 Q. So you have read the recent research
16 regarding the first cigarette of the day; correct?

17 A. No, I haven't.

18 Q. Has anybody told you about it?

19 A. I don't know what you're talking about,
20 no.

21 Q. What kind of a physiological effect does
22 a cigarette have on you?

23 A. I think cigarette smoking in addition to
24 being enjoyable for me, I think it relaxes me
25 sometimes when I'm under stress. I guess

1 relaxation is probably the most important attribute
2 I would say.

3 Q. Makes you feel better?

4 A. I think it relaxes me.

5 Q. So when during certain stressful times of
6 the day, it puts you in a more relaxing mood; is
7 that correct?

8 A. I think that's fair.

9 Q. How quickly does it do that, like after
10 you start to puff on a cigarette, how quickly does
11 it put you in that relaxed mood?

12 A. Gee, I have no idea. I think -- again, I
13 smoke for enjoyment as well as relaxation because
14 it's to me a very pleasurable thing to do. I can't
15 quantitate how fast it relaxes me or anything of
16 that sort. Frankly, there are sometimes when
17 smoking a cigarette is something I do and it
18 doesn't relax me, there are many times when it
19 does.

20 Q. The reason it relaxes you is because of
21 that nicotine in the cigarette, you know that;
22 correct?

23 MR. LATHAM: Object to the form of the
24 question.

25 A. As I said before, I think nicotine is an

1 important element in cigarette smoking. There is a
2 physiological effect and the physiology of nicotine
3 may be a part of why cigarette smoking relaxes me.
4 I don't think it's the only reason that I smoke and
5 I don't think it's the only reason cigarette
6 smoking relaxes me. There's --

7 Q. If you were going to keep smoking, you'd
8 want nicotine in the cigarette; right?

9 A. Excuse me. There's a ritual to cigarette
10 smoking, there is the fact that I just enjoy
11 sometimes stopping to smoke a cigarette, it gives
12 me a break, there's many components to this. The
13 physiological effects of nicotine is certainly one
14 element of it.

15 Q. Bottom line, though, is if it wasn't for
16 the nicotine, you wouldn't bother with the ritual;
17 correct?

18 A. Well, I've smoked some cigarette
19 prototypes that have almost no nicotine and I don't
20 like those products. They taste different and I
21 just didn't get the satisfaction, and to be frank,
22 I don't think I got the relaxation out of it
23 either.

24 Q. You didn't get the physiological effect?

25 A. I think that's fair, but that's not the

1 only reason that I smoke.

2 Q. Well, without it, you wouldn't smoke?

3 A. If a cigarette didn't contain nicotine or
4 if it had extremely low levels like some of the
5 prototypes we've built, I would buy other products.

6 Q. What other products would you buy?

7 A. I would buy other products that have a
8 higher nicotine level or that are more acceptable
9 to me. That product is not acceptable to me.

10 Q. So you're addicted to nicotine; correct?

11 A. I enjoy and I purchase and smoke
12 cigarettes that contain nicotine. If by addiction
13 you mean that I must have nicotine, that I am
14 powerless to quit smoking, the answer is clearly
15 no, I am not addicted.

16 Q. Well, I mean, people aren't even
17 powerless to quit taking cocaine, they can stop
18 taking cocaine; right?

19 MR. LATHAM: Object to the form of the
20 question. You're getting far from his field of
21 expertise again, John.

22 BY MR. HOAG:

23 Q. It's common sense if somebody uses
24 cocaine and if they have enough will power, they
25 can stop taking the cocaine; right?

1 A. Some individuals may. Many may require
2 medical attention to do that.

3 Q. Right. That's also true for stopping
4 smoking true, correct, some people require the
5 nicotine patch while other people can never quit;
6 right?

7 A. I'm not an expert in this whole area of
8 smoking sensation, but my personal experience is
9 some people find it very easy to quit, some people
10 find it difficult to quit emotionally.

11 Q. You find it pretty difficult to quit,
12 don't you?

13 A. I've never tried to quit.

14 Q. But you know the major health risks
15 associated with smoking; isn't that correct?

16 A. I know that cigarette smoking is a risk
17 for a number of diseases.

18 Q. You care about that stuff, don't you, you
19 don't want to get cancer, do you?

20 A. I care about what stuff? Define stuff.

21 Q. You don't want to get cancer, do you?

22 A. Of course, I don't want to get cancer.

23 Q. But you still smoke; right?

24 A. I smoke because I've made a choice to
25 accept those risks as I've made a choice to accept

1 other risks.

2 Q. Right. So you need the nicotine more
3 than you need to do what you can to protect
4 yourself from the negative health consequences;
5 right?

6 MR. LATHAM: Object to the form of the
7 question, argumentative, John.

8 A. I don't agree with that question at all.
9 I've chosen to smoke because I enjoy smoking. As I
10 have said, I think nicotine is only one element of
11 cigarette smoking, it's not the only reason. If
12 nicotine were the only reason, I'd be wearing a
13 patch all the time.

14 Q. You know that just about everybody who
15 gets lung cancer is a smoker; correct?

16 A. I don't know that to be the case at all.

17 Q. What's your understanding of the
18 percentage of people who get lung cancer who are
19 also smokers?

20 A. I don't recall exact percentages. I know
21 that many people who are not smokers contract lung
22 cancer. I know that many smokers contract lung
23 cancer and that proportionately more smokers will
24 contract lung cancer in a statistical sense and
25 that's why cigarette smoking is a risk for lung

1 cancer.

2 Q. It's a very, very high risk for lung
3 cancer; correct?

4 A. The relative risk to cigarette smoking
5 and lung cancer is high.

6 Q. You are well aware of that; correct?

7 A. I just said that the relative risk
8 between cigarette smoking and lung cancer is high
9 compared to other risks.

10 Q. How long have you been smoking now, how
11 many years?

12 A. I guess I started smoking when I was 27
13 or 28. I'm now --

14 Q. You know that -- how old are you now?

15 A. I'm now 50.

16 Q. You've been smoking consistently for
17 about 23 years now?

18 A. That's fair.

19 Q. And you know that you are 20 times more
20 likely to contract lung cancer because you continue
21 to smoke as compared to somebody who has never
22 smoked at all; right?

23 A. I know that the relative risks of
24 cigarette smoking and lung cancer are high. I
25 don't recall the exact relative risks, whether it's

1 20 or 10 or whatever, I don't recall, but I do know
2 it's high. I do know that there are other risks
3 for lung cancer. I know there are other risks for
4 other chronic diseases that are associated with
5 smoking.

6 Q. But you're not willing to give up your
7 nicotine in order to avoid that risk; correct?

8 MR. LATHAM: Object to the form of the
9 question, argumentative, asked and answered.

10 A. I don't agree with that at all. I have
11 chosen to continue to smoke because I enjoy
12 smoking. I don't think nicotine is the only reason
13 I smoke. There is other reasons, in particular,
14 the enjoyment, the pleasure, as well as the ritual
15 of it. I've chosen to continue smoking at this
16 point.

17 Q. Do you have any plans to quit?

18 A. At this point I have no plans to quit.

19 Q. Have you ever tried to quit?

20 A. I've never tried to quit.

21 Q. Given the fact that you understand
22 there's a high health risk for smoking, why have
23 you never tried to quit?

24 A. Because there's a benefit for me. I
25 enjoy smoking, it's a risk that I've chosen to take

1 because I enjoy smoking. There are benefits in
2 addition to the taste and satisfaction, there are
3 benefits like we've talked about before, it relaxes
4 me, there's a ritual, there's a social aspect of
5 it. So all of that together is why I smoke.

6 Q. If you knew at the time you started to
7 smoke that you wouldn't want to stop smoking once
8 you started, would you have started in the first
9 place?

10 A. I don't know. That's a hypothetical
11 question. I have no idea what the answer is. I
12 chose to smoke at that time also knowing that there
13 were risks to smoking.

14 Q. At the time you started smoking, did you
15 know that once you started to smoke you would want
16 to continue to smoke for the rest of your life?

17 A. Well, that's hard for me to judge. I
18 know I chose to start smoking. I have made the
19 decision to continue smoking. I know a lot more
20 about cigarettes now than I did 23 years ago or
21 whatever it is, and I still choose to smoke. There
22 may come a day when I choose not to smoke. If that
23 day comes, I feel like that I can quit.

24 Q. You do know that most people who try to
25 quit smoking aren't successful; correct?

1 A. I don't know that at all. In fact, there
2 are more ex-smokers today than there are current
3 smokers.

4 Q. What percentage of people who try to quit
5 smoking are able to quit smoking the first time
6 they try?

7 A. I can't recall. I've seen various
8 studies on that, on the percentage of smokers who
9 can quit by themselves the first time they try, the
10 percentage of smokers who quit only with aids like
11 nicotine patch or nicotine gum, and the percentage
12 of smokers who claim they can't quit. I don't
13 recall those numbers specifically and I know that
14 there are various studies that come out with
15 somewhat different conclusions.

16 Q. What percentage of people who try to stop
17 using cocaine are able to do so the first time they
18 try?

19 A. I have no idea.

20 Q. What percentage of people who once used
21 cocaine no longer use it?

22 A. I don't know.

23 Q. Is cocaine addictive?

24 A. It depends on definition, doesn't it,
25 just like we've talked about before.

1 Q. Basically, your answer is the same as to
2 whether or not nicotine is addictive; correct?

3 A. That's not what I said. It depends on
4 definition is my answer. If one takes the classic
5 World Health Organization definition of addiction,
6 then cocaine is addictive and cigarette smoking is
7 not addictive.

8 If one takes the modern definition of
9 addiction, which is pretty much anything I enjoy
10 doing and feel compelled to do for whatever reason,
11 whether it's chocolate eating or whatever, is
12 addictive, then both would be considered
13 addictive. It's all a matter of definition.

14 Q. So you basically analogize nicotine
15 addiction to chocolate addiction; is that right?

16 A. I think that completely mischaracterizes
17 what I said.

18 Q. I heard you throw in chocolate there, I
19 was trying to understand why.

20 A. Because I was making the point that
21 addiction depends on the definition. If the
22 definition of addiction is, as it's commonly used
23 today, where people talk about I'm addicted to
24 chocolate, I'm addicted to love, addicted to
25 whatever, then cigarette smoking as well as cocaine

1 as well chocolate as well as everything is
2 addictive.

3 But if one turns to the classic
4 definition of addiction -- and I'm not an expert in
5 addiction, but I have looked at this a good bit.
6 If one turns to the classic definition of
7 addiction, then cocaine would be considered
8 addictive, heroin would be considered addictive,
9 and cigarette smoking and coffee drinking would not
10 be considered addictive. It's a matter of
11 definition.

12 Q. How many people die each year as a result
13 of drinking coffee?

14 A. I don't know.

15 Q. Did you hear my question?

16 MR. LATHAM: He heard it and he answered
17 it.

18 MR. HOAG: I didn't hear it.

19 Q. What was your answer?

20 A. My answer was I don't know.

21 Q. Has cigarette smoking resulted in the
22 premature death of anyone?

23 A. I don't know.

24 Q. You do know it's been estimated that
25 cigarette smoking in the United States of America

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1 results in the premature death of approximately
2 400,000 human beings each year; correct?

3 A. I've heard that estimate. I've heard
4 other estimates as well.

5 Q. You don't know whether even one person
6 has ever died prematurely as a result of smoking
7 cigarettes; is that correct?

8 A. Once again, my answer is I don't know.
9 Cigarette smoking is a risk for lung cancer and a
10 number of other chronic diseases. Those diseases
11 also have other risk factors such as diet,
12 exercise, and a variety of other things. I don't
13 know whether cigarette smoking has caused any of
14 those diseases in itself, it may, I don't know.

15 Q. Have any of the scientists at RJR that
16 you're aware, have any of them contracted lung
17 cancer?

18 A. I'm aware of two employees of research
19 and development that have contracted lung cancer.

20 Q. Were they both smokers?

21 A. They both were smokers.

22 Q. Did either of them continue to smoke
23 cigarettes after being diagnosed with lung cancer?

24 A. In one case, the answer is no. In the
25 other case, the answer is I don't know.

1 Q. Now, one of them you know did not
2 continue to smoke and the other one you don't know
3 whether that person did or not?

4 A. That's correct.

5 Q. How much did they smoke prior to being
6 diagnosed with lung cancer?

7 A. I have no idea.

8 Q. Did either of them die?

9 A. One has died. The other has not.

10 Q. How old was the one person who died?

11 A. I just have to guess. I would say it
12 would be about -- let's see, he died last year, he
13 would be about 55 or thereabouts.

14 Q. Now, did his cigarette smoking result in
15 his premature death?

16 A. I don't know.

17 Q. Is it more likely than not that his
18 cigarette smoking resulted in premature death?

19 A. Cigarette smoking is clearly a risk for
20 lung cancer. It may have contributed to it, I
21 don't know because we don't know whether cigarette
22 smoking, in fact, causes cancer, it may.

23 Q. Is it more likely than not in that
24 particular person?

25 MR. LATHAM: Object to the form of the

1 question, asked and answered.

2 BY MR. HOAG:

3 Q. Is it more likely than not for that
4 particular person cigarette smoking resulted in
5 premature death?

6 A. I have no idea. I just don't know.

7 Q. Are there any scientists at RJR who have
8 an opinion that's different from yours regarding
9 whether or not that employee's death was as a --
10 his premature was as a result of smoking
11 cigarettes?

12 A. I don't know. I haven't discussed that
13 in that way with other employees at Reynolds.

14 Q. Do you know how long that person had
15 smoked cigarettes?

16 A. No.

17 MR. LATHAM: Objection, asked and
18 answered.

19 A. No, I don't.

20 BY MR. HOAG:

21 Q. Do you have any friends or relatives who
22 have contracted lung cancer other than the
23 employees that you just named?

24 A. I can't recall any, no.

25 Q. We talked earlier about the Eclipse

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1 cigarette and some of the biological assays that
2 were done and I specifically mentioned to you urine
3 mutagenicity. Those tests that were done comparing
4 the Eclipse cigarettes, did they compare the
5 Eclipse cigarette to a reference cigarette?

6 A. They did and it was done in a switching
7 study. The best description of that experiment if
8 you care to dig into the details is in the Premier
9 Monograph which describes that kind of experiment
10 very clearly. It was a switching study between
11 Eclipse and a reference tobacco-burning cigarette.

12 Q. A reference cigarette, you mean a
13 cigarette that has the additive taken out but
14 includes the tobacco and the tar and the nicotine,
15 things like that; correct?

16 A. No, that's not what I mean. The
17 reference cigarette is an industry standard
18 reference, a Kentucky reference, and I believe
19 another reference cigarette we used was a Camel
20 lights commercial product.

21 Q. The standard reference cigarette did not
22 contain the additive?

23 A. Kentucky reference cigarettes are used
24 widely in the industry because they're relatively
25 uniform products for developing analytical

1 methodology and for evaluations. The particular
2 Kentucky reference cigarettes that we used do not
3 contain flavors. They do contain some additives
4 like glycerin and other humectants that are
5 necessary to maintain moisture in the cigarette, so
6 I think it's not that black and white.

7 Q. It's not a cigarette that you can buy
8 commercially; correct?

9 A. Average consumers cannot buy them
10 commercially. We, of course, can buy them from the
11 University of Kentucky.

12 Q. You can't go to a drugstore or a Seven
13 Eleven or anywhere like that and buy a reference
14 cigarette; correct?

15 A. Consumers cannot buy Kentucky reference
16 cigarettes on the market.

17 Q. And the commercial cigarettes with the
18 exception of right now Winston, they contain
19 additives that are not in the reference cigarette;
20 correct?

21 A. There are additives in most cigarettes
22 sold commercially. Winston is not the only product
23 on the U.S. market that contains no additives.

24 Q. What are the other products?

25 A. Well, Planet, I believe, is sold by RJ

1 Reynolds as a small brand, contains no additives.
2 There are also some small tobacco companies, at
3 least one in particular that I can think of,
4 Santa Fe Tobacco Company that sells by mail order
5 no additive cigarettes. I'm trying to recall the
6 brand name of that product, maybe I'll recall it
7 here in a second. Okay, I can't think of it.

8 Q. Winston is manufactured by RJR; correct?

9 A. That's correct.

10 Q. They advertise the no additive Winston
11 with the expression no bull; correct?

12 A. That's part of the advertising, that's
13 correct.

14 Q. Now, in what ways are additives, quote,
15 bull?

16 A. I have no idea. That's advertising
17 lingo, I have no idea.

18 Q. Well, does taking the additives out of a
19 cigarette make a cigarette safer?

20 A. There's no evidence to my knowledge that
21 adding the additives that we use makes them more
22 unsafe or less safe, and taking them out, there's
23 no evidence that taking them out will, in fact,
24 make cigarettes less risky.

25 Q. There's no evidence one way or the other

1 on that?

2 A. Well, let me back up then. There have
3 been a number of studies like the studies conducted
4 by the National Cancer Institute with the tobacco
5 working group which began in the '60s and carried
6 through to the late '70s where they evaluated
7 additives, evaluated cigarettes with and without
8 additives, did extensive chemistry and biology
9 measurements and concluded that at least under
10 those experimental conditions the presence or
11 absence of additives did not affect thereby
12 assays. There have been other studies since, the
13 additives that are used in commercial products in
14 the U.S. have been disclosed years ago to the
15 Department of HHS. Those have been evaluated, and
16 at the levels that they're used in cigarettes,
17 they're thought generally not to be a problem.

18 Q. How many years ago was that provided to
19 HHS?

20 A. Well, this is not something I worry about
21 every day so I'll just have to guess. I think it
22 was in the early to mid-80's that we began -- that
23 the industry began disclosing additives in a
24 confidential fashion to HHS for their review.

25 Q. That was cumulative numbers and names of

1 additives; correct?

2 A. Well, the additives were not brands --
3 not listed by brands that they're used in but
4 listed in terms -- well, it was an overall industry
5 list, I believe, which listed additives in rank
6 order of their -- the quantity used in the
7 industry.

8 Q. Now, one additive is ammonia; correct?

9 A. Ammonia has been used as an additive
10 particularly as a processing aid in various aspects
11 of manufacturing.

12 Q. Which RJR brands include ammonia as an
13 additive?

14 A. Well, again, you know, I didn't call
15 ammonia an additive as such. I called it a
16 processing aid. However, ammonia has been used
17 particularly in the reconstituted tobacco sheet
18 process, which has been used in a number of brands,
19 in the old Winston, in Camel, a variety of brands.

20 Q. What percentage of the brands that RJR
21 manufacture include ammonia?

22 A. Today as we sit here?

23 Q. Yes.

24 A. I'm not sure what percentage do. Some
25 do, some don't.

1 Q. You are aware that the ammonia increases
2 the absorption rate of nicotine; correct?

3 A. I think that's a theory that's been
4 speculated by a number of people. There's no
5 evidence to demonstrate that that's the case.

6 Q. You read the study that was published by
7 Pankow a few months ago?

8 A. I've read Pankow's article. I've had
9 experts in my group and other groups thoroughly
10 evaluate that. I know there are a number technical
11 scientific flaws to that paper.

12 Q. What caused you to have experts
13 thoroughly evaluate that?

14 A. Because it was a scientific article
15 dealing with a very sensitive issue that, frankly,
16 my company and the industry is being attacked on,
17 which is not true.

18 Q. What did it have to do with your job
19 title?

20 A. I have experts in the area that can
21 interpret and understand the type of work that
22 Pankow reported and can critique it.

23 Q. And it was important for them to reach a
24 conclusion different than the one Pankow did;
25 correct?

1 A. It was important for them to reach a
2 scientifically valid conclusion and they did that.

3 Q. The fact that ammonia is used to increase
4 the absorption rate of nicotine, is that an
5 instance that's been used by the FDA as far as
6 government regulations are concerned; correct?

7 MR. LATHAM: Object to the form of the
8 question.

9 A. The FDA has made arguments along these
10 lines. To my knowledge, I've never seen data that
11 shows the use of ammonia in tobacco products, in
12 fact, increases absorption rates of nicotine.

13 Q. What exactly is your understanding is
14 wrong with the article by Pankow that concludes
15 that nicotine exponentially increases the
16 absorption rate of nicotine?

17 A. As we sit here today, I don't recall all
18 the details. I know that there were serious
19 technical flaws to that paper. I can certainly go
20 back and review it. We have critiques that we've
21 prepared for that.

22 Q. That who has prepared?

23 A. Scientists at RJ Reynolds.

24 Q. Are those written critiques?

25 A. There are some.

1 Q. Who prepared those written critiques?

2 A. Dr. Bradley Ingebrethsen is probably the
3 primary person that's critiqued that paper.

4 Q. Did he publish his critique?

5 A. He's written it in internal form.

6 Q. Is that a proprietary document?

7 A. Well, I consider it internal
8 confidential. I've also talked with
9 Dr. Ingebrethsen about publishing his critique. At
10 this point it's not been submitted for publication.

11 Q. What's the process for it to become
12 submitted for publication?

13 A. Well, there's two possible ways. The
14 first is to send a letter to the editor of that
15 journal with the critique in the body of that
16 letter in the hopes that the editor will publish it
17 as a letter in a future issue of the journal.

18 Q. How do you spell his last name?

19 A. I-n-g-e-b-r-e-t-h-s-e-n.

20 Q. Did he do this critique at your request?

21 A. He was very interested in the subject
22 initially, but he did do the critique at my
23 request.

24 Q. How long ago did you make that request?

25 A. Right after the article came out.

1 Q. The article by Pankow?

2 A. Yes.

3 Q. How long after you made the request did
4 he have the critique completed?

5 A. He had some early opinions very quick, I
6 would say within a few weeks. He did an extensive
7 critique over the next month or so.

8 Q. Did this request to -- I really can't
9 pronounce his last name -- Dr. Bradley, et cetera,
10 this request to him, was it put in writing?

11 A. No.

12 Q. Just an oral request from you?

13 A. I usually ask my people to do things
14 verbally.

15 Q. What's his position?

16 A. He's principal scientist in the research
17 and development department.

18 Q. Now, if nicotine is regulated as a drug
19 by the Food and Drug Administration, that will
20 create a lot of problems in the tobacco industry;
21 is that a fair statement?

22 A. I can't begin to speculate on what the
23 future may hold.

24 Q. Well, the tobacco industry doesn't want
25 the Food and Drug Administration to regulate

1 nicotine as a drug; correct?

2 A. Again, I can't speculate on what the
3 industry may or may not want.

4 Q. What would happen if the FDA regulated
5 nicotine as a drug?

6 A. I couldn't begin to speculate on what the
7 future would hold if the FDA regulated nicotine as
8 a drug.

9 Q. You're well aware that the tobacco
10 industry and including RJR does not want the FDA to
11 regulate nicotine as a drug; correct?

12 A. I know that there's various opinions
13 within Reynolds and within the industry on whether
14 or not the FDA should regulate nicotine as a drug.
15 I know there's been legal action as well.

16 Q. Who in the industry would like the FDA to
17 regulate nicotine as a drug?

18 A. Probably my best guess would be Liggett
19 Tobacco Company.

20 Q. Anyone else?

21 A. No. I'm just speculating myself.

22 Q. Why is Liggett Tobacco Company your best
23 guess?

24 A. Well, because they have a recent history
25 of encouraging regulation, I think, of various

1 aspects of the industry.

2 Q. As far as you know, they've admitted that
3 nicotine is addictive, you're aware of that;
4 correct?

5 A. I'm aware of that.

6 MR. LATHAM: John, is this a good time
7 for lunch? Our lunch has just arrived. Are you
8 going to be a lot longer?

9 MR. HOAG: Not a great time but --

10 MR. LATHAM: How long are you going to
11 be, do you have any idea?

12 MR. HOAG: Well, if you guys have lunch,
13 can you eat it pretty quickly?

14 MR. LATHAM: Sure.

15 MR. HOAG: How quickly?

16 MR. LATHAM: 35, 40 minutes.

17 MR. HOAG: I've got 12:10 now. Can we
18 come back on at twenty of one?

19 MR. LATHAM: We'll do our best.

20 MR. HOAG: Okay. I'll put you on hold.

21 (A lunch recess was taken.)

22 BY MR. HOAG:

23 Q. When we stopped to take lunch break, we
24 were talking about whether anyone in the tobacco
25 industry believed that nicotine should be regulated

1 by the FDA as a drug and you mentioned Liggett. My
2 next question related to that is, is there anyone
3 at RJR that you're aware of who believes that FDA
4 should regulate nicotine as a drug?

5 A. Let me clarify the first part, you know,
6 and I'm speculating that Liggett might conclude
7 that. I don't know that for a fact, of course. As
8 far as the question on the table now, I'm not
9 aware, but then I haven't done a complete poll of
10 everybody at RJR, I'm not aware of anybody who
11 believes that FDA should regulate nicotine.

12 Q. That includes you, of course?

13 A. That includes me, of course.

14 Q. Why do you think they should not regulate
15 nicotine as a drug?

16 A. Well, this is my personal opinion. I
17 think nicotine like caffeine are important
18 ingredients for the consumer products that they are
19 in. I think regulation of nicotine in tobacco
20 products will ultimately -- the ultimate agenda,
21 and this is my personal opinion, would be to reduce
22 nicotine levels to extremely low levels where all
23 products are not consumer acceptable, so it's one
24 vehicle for eliminating consumer acceptability of
25 the tobacco products that are available. Just like

1 I think there's a large segment of coffee drinkers
2 who don't accept decaffeinated coffee and would
3 have a very difficult time finding suitable
4 products in the market if the FDA regulated
5 caffeine as a drug in coffee.

6 Q. There's a qualitative difference between
7 the health risks in smoking cigarettes and drinking
8 coffee; correct?

9 A. Well, certainly, cigarette smoking is a
10 risk factor for a number of diseases. Coffee has
11 been suggested as a risk factor for some other
12 diseases, but, certainly, there's a big difference,
13 I think, in the potential health risks of coffee
14 and cigarette smoking. However, your question
15 dealt with classification and regulation of certain
16 constituents as drugs, so I was drawing a parallel
17 with coffee.

18 Q. Have you read the Brown & Williamson leaf
19 blenders handbook?

20 A. No, I haven't.

21 Q. Do you know about it?

22 A. I've heard of it.

23 Q. What have you heard?

24 A. In the Popular Press I've heard various
25 accounts of the Brown & Williamson book, only what

1 I've read in the Popular Press.

2 Q. Do you know whether or not RJR has
3 anything like that leaf blenders handbook that
4 discusses ammonia?

5 A. I'm not aware of a leaf blenders handbook
6 for RJ Reynolds. We have a lot of documents,
7 however, that do discuss ammonia.

8 Q. Do you have RJR documents that you
9 reviewed that indicate that ammonia increases the
10 absorption rate of nicotine?

11 A. No. As I've said to two of your earlier
12 questions, I'm not aware of any scientific evidence
13 that the use of ammonia will increase the
14 absorption and I'm assuming you're talking about
15 the bioabsorption of nicotine.

16 Q. Have the documents that you reviewed from
17 RJR discuss ammonia, what do they say about
18 ammonia?

19 A. That ammonia can improve the taste
20 characteristics of some tobacco products if used
21 properly because ammonia will react very
22 efficiently with certain sugars to form very
23 flavorful compounds particularly pyrazines as a
24 class of compounds.

25 Q. You're aware that Pankow compared ammonia

1 to the use of crack cocaine?

2 A. It's been a long time since I've read
3 that article. I can't recall exactly that
4 comparison.

5 Q. The article was published in 1997;
6 correct?

7 A. I believe that's correct.

8 Q. Just a few months ago?

9 A. It wasn't long ago.

10 Q. It was significant enough for you to
11 actually find someone to prepare a detailed written
12 critique; correct?

13 A. As we've already talked about, I asked
14 one of my scientists to critique that article.

15 Q. Now, if the article -- if the critique of
16 your scientists would have said that Pankow's
17 article was accurate and correct in its conclusion
18 that ammonia increases the absorption rate of
19 nicotine, would you have suggested to him that he
20 publish that?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. Our job at RJ Reynolds research and
24 development is to do good science regardless of the
25 answer and we do good science regardless of the

1 answer. So if the results weren't necessarily
2 favorable to any -- what the company may like to
3 see, we still have to stand by our science as good
4 scientists.

5 Now, let's go back to the Pankow article,
6 I don't recall the Pankow article being focused on
7 nicotine bioabsorption. I do remember that article
8 discussing nicotine and ammonia and ammonia's
9 possible influence on the free nicotine to bound
10 nicotine ratio.

11 Q. Comparing it to how crack cocaine worked;
12 correct?

13 A. I don't recall a reference to crack
14 cocaine.

15 Q. Now, my question was: Would you have
16 suggested that the researcher publish the results
17 in the public domain if his critique reached the
18 conclusion that Pankow's article was correct?

19 A. If a critique of Pankow's article
20 concluded that he was exactly correct and there
21 were no scientific errors or flaws in it, then
22 there would be no point in publishing it because
23 that doesn't add to the scientific understanding.
24 That's the way scientists do their job.

25 If they do research and it confirms

1 what's already believed to be true, then there's no
2 reason to publish it. If there's contrary evidence
3 that develop -- that results in new theories or new
4 ideas or approaches to things, then that's worthy
5 of publishing in the scientific literature.

6 Q. So your answer is, no, you wouldn't have
7 recommended that he publish it in the public
8 domain; correct?

9 MR. LATHAM: Object to the form of the
10 question.

11 A. Like many other areas of research in our
12 organization and elsewhere, if one confirms what's
13 already reported in the literature, then more than
14 likely there's no reason to publish that.

15 BY MR. HOAG:

16 Q. That's happened at RJR many times,
17 they've confirmed scientific studies indicating,
18 for example, that tobacco and/or tar causes tumors
19 on animals; correct?

20 MR. LATHAM: Object to the form of the
21 question.

22 A. I think there's at least two questions in
23 there. Let me answer the first one first. RJ
24 Reynolds has done experiments where we've confirmed
25 some -- certain pieces of information in the

1 literature and we haven't published that because it
2 doesn't add to the scientific understanding.

3 There have been cases where we've done
4 experiments and we've found different points of
5 view, different results than what's published in
6 the literature, and we publish that.

7 Now I can't recall the second part of
8 your question.

9 Q. Are you aware of whether or not the
10 tobacco industry has criticized some of the studies
11 that have been, in fact, duplicated?

12 A. That's pretty general. Can you be
13 specific?

14 Q. Well, I'm asking it in a general way.

15 A. I know you are. Do you have a specific
16 example that you want me to try to answer.

17 Q. If you have no examples, just let me
18 know. If you're not aware of whether or not the
19 tobacco industry has, in fact, criticized a
20 research that has been duplicated, that's what I
21 want to know.

22 MR. LATHAM: Object to the form of the
23 question.

24 A. You have to ask me a specific question
25 and I'll try my best to help you out with an

1 answer.

2 BY MR. HOAG:

3 Q. My specific question is do you know
4 whether or not the tobacco industry has ever
5 criticized any research studies that have been
6 duplicated?

7 MR. LATHAM: Object to the form of the
8 question.

9 A. That's just too broad and too general.
10 If you have a specific question, I'll be happy to
11 try to help.

12 BY MR. HOAG:

13 Q. I just need a yes or no answer whether
14 you're aware of whether that happened at any time.
15 Are you aware of whether that happened at any time,
16 and by that I mean that the tobacco industry
17 criticized research that it has, in fact,
18 duplicated?

19 A. If you're forcing me to answer that very
20 general question without a specific example or a
21 specific occurrence, then I don't know what to say
22 other than in my experience at Reynolds, I have
23 never seen a case where RJ Reynolds has criticized
24 a study that it knew to be correct.

25 Q. Well, I said a study that it had

1 duplicated.

2 A. Well, to me that's very similar.

3 Q. That's exactly the same thing?

4 A. I said similar.

5 Q. All right. Then you answered a question
6 I didn't ask you if you don't think they're exactly
7 the same thing. Can you answer the question I
8 asked?

9 MR. LATHAM: What's the question, John?

10 BY MR. HOAG:

11 Q. Do you know whether or not the tobacco
12 industry has ever criticized research that it has
13 duplicated?

14 MR. LATHAM: Object to the form of the
15 question, asked and answered.

16 A. I can't speak for the industry. My
17 experience at RJ Reynolds is I'm not aware of a
18 case where RJ Reynolds has criticized results of
19 scientific experiment that it, in fact, has exactly
20 duplicated in the laboratory.

21 Q. Has it criticized one that they came
22 close to duplicating but didn't exactly duplicate?

23 A. To go further in this line you need to
24 give me some specifics because we're talking so
25 general here, I just don't understand it.

1 Q. Well, see, obviously, you have more
2 knowledge about RJR's internal documents that they
3 haven't released to the public than I do. So you
4 would know the answer to the question while I would
5 not.

6 MR. LATHAM: Let's conduct the deposition
7 in question and answer format, John, not speeches.

8 BY MR. HOAG:

9 Q. Isn't that correct, you would know the
10 answer to the question because you have access to
11 internal RJR documents that I do not have access
12 to; correct?

13 MR. LATHAM: Objection. Ask a question,
14 John, make speeches.

15 MR. HOAG: I'm asking a question.

16 Q. Is that correct?

17 A. Ask me a specific question and I will try
18 to give you an accurate answer.

19 Q. Do you have access to RJR documents that
20 I do not have access to?

21 A. That's a specific question. I have
22 access to RJR documents that you do not have access
23 to.

24 Q. You'd have access to RJR documents that
25 would include research studies that have duplicated

1 public domain studies; correct?

2 A. I think in a number of cases there are
3 research studies conducted at Reynolds that
4 duplicate what's in the scientific domain.

5 Q. And of those studies, has RJR or the
6 tobacco industry, any representative of the tobacco
7 industry, ever criticized a study that you know RJR
8 has for all intents and purposes duplicated?

9 MR. LATHAM: Object to the form of the
10 question.

11 A. I've already answered that question in a
12 general way. To my knowledge, RJ Reynolds has not
13 criticized a study that it has exactly duplicated
14 in the laboratory. I'm not aware of such a case.

15 Q. Exactly duplicated, what do you mean?

16 A. If one goes into the laboratory and
17 conducts an experiment, things never turn out
18 always exactly reproducible. So if -- there's
19 always some differences from laboratory to
20 laboratory if one tries to replicate an experiment.

21 Q. So, in other words, there's no such thing
22 as 100 percent exact duplication; is that correct?

23 A. If one laboratory does an experiment
24 three times, all three answers are never identical.

25 Q. Then why not publish it three times

1 rather than withhold the publication of the
2 duplicating --

3 A. Because --

4 MR. LATHAM: Object to the form of the
5 question, argumentative.

6 A. Because the answers may lead to the same
7 conclusion. You, obviously, have not worked in a
8 laboratory. There's variability in the way things
9 happen in laboratories. Even though one may come
10 to the same conclusion 20 times, the specific
11 details of each 20 experiments may be somewhat
12 different.

13 BY MR. HOAG:

14 Q. So has RJR in the tobacco industry ever
15 criticized research in the public domain that has
16 been duplicated in that the same conclusion was
17 reached by the research that was duplicated?

18 A. I'm not aware of a case where RJ Reynolds
19 has criticized a publication in the scientific
20 domain where RJ Reynolds has conducted that kind of
21 experiment and reached the same conclusion.

22 Q. Are you aware of anyone in the tobacco
23 industry including the Council for Tobacco Research
24 in the tobacco industry?

25 A. I'm obviously less familiar with the

1 entire industry. I'm not very familiar with the
2 Council for Tobacco Research. I am very aware of
3 many of the things at Reynolds. I can't speak for
4 the whole industry.

5 Q. Do you know whether or not the tobacco
6 industry or persons for the tobacco industry has
7 ever criticized research studies that have been
8 duplicated by RJR, and by duplicated I mean RJR
9 reached the same conclusion of the recent published
10 study in the public domain?

11 A. I'm not aware of such a case, I don't
12 recall such a case if it happened.

13 Q. Are you aware that the chemical cellulose
14 acetate, an ingredient of cigarette filters, is a
15 cancer-causing agent?

16 A. No, I'm not aware of it, and cellulose
17 acetate is not an ingredient of filters, it is the
18 material of construction for filters.

19 Q. You do know that a team of scientists
20 from Roswell Park Institute in New York found that
21 when tiny fibers of the material, meaning cellulose
22 acetate, were embedded in the lungs of mice and
23 observed over six months, they caused tumors to
24 develop, you're aware of that; correct?

25 A. Your original question was, was I aware

1 that cellulose acetate causes cancer, and I'm not
2 aware that cellulose acetate itself causes cancer,
3 I've never heard that. Your second question is
4 quite different and it deals with the study from
5 Roswell Park, which I have seen, which alleges that
6 filter fibers, in fact, are delivered from the use
7 of cigarettes and, in fact, cause cancer. I have
8 seen that article.

9 Q. Cause tumors to develop?

10 A. Cause tumors to develop, thank you.

11 Q. Has RJR attempted to duplicate that
12 study?

13 A. We've not attempted to duplicate that
14 study per se. We have, however, tried to measure
15 filter fiber released from cigarettes.

16 Q. Why did RJR not attempt to duplicate the
17 study?

18 A. Because we don't have the kind of
19 biological research facility that would do that
20 particular kind of study. We have quite a lot of
21 different types of biological research but not that
22 kind.

23 Q. Is there anything preventing RJR from
24 having the capability of doing that kind of
25 research?

1 A. In an area like that, we tend to go
2 outside to experts who are already established in
3 that particular type of -- those particular types
4 of experiments and fund research with them rather
5 than try to develop our own research capability.

6 Q. Has RJR funded research with these
7 outside consultants in an effort to attempt to
8 duplicate the study done at Roswell Park?

9 A. I'm not aware of that.

10 Q. Not aware of that?

11 A. I'm not aware of that.

12 Q. If that's something that had occurred, is
13 it something you'd be likely to be aware of in your
14 position as vice president?

15 A. Not necessarily.

16 Q. Not necessarily?

17 A. Not necessarily.

18 Q. I said likely to be aware of it.

19 A. It's possible, but not necessary.

20 Q. Isn't it something you'd expect to know
21 in your position as vice president if RJR had
22 consulted with outside scientists to duplicate that
23 study?

24 A. I'm aware of a lot of the research that
25 RJ Reynolds contracts outside. I'm certainly not

1 aware of all of it.

2 Q. Is that the kind of study that it would
3 be important for RJR to attempt to duplicate?

4 A. I don't know. You're really outside my
5 area of expertise. I think there were -- in the
6 Roswell Park studies, I think there were major
7 flaws in that study. I think we have in our
8 investigation of whether or not fibers are released
9 from cigarette filters, in fact, have seen quite
10 different results than those speculated by the
11 Roswell Park scientists.

12 Q. Well, that wasn't speculation, that was a
13 finding they made in their research; correct?

14 A. That was their conclusion. I think their
15 conclusion was flawed by the nature of their
16 analysis. In short, I think the fibers they were
17 looking at in these human lungs were, in fact, not
18 cellulose acetate filter fibers.

19 Q. Why doesn't RJR just pay some consultants
20 to duplicate to find out if the Roswell Park study
21 was accurate?

22 A. We have pretty clear evidence or pretty
23 clear information that the fibers reported by the
24 Roswell Park scientists were not cellulose acetate
25 filter fibers. The Roswell Park scientists didn't

1 realize that cigarette filter fibers were Y-shaped,
2 that they had different size characteristics.
3 There's reason to believe that the fibers in that
4 study that were thought to be cigarette filter
5 fibers were not. We've also looked at whether or
6 not cigarette filter fibers transfer in this
7 extremely rare occurrence.

8 Q. So then are you saying the reason that
9 RJR didn't higher consultants to duplicate the talk
10 or to duplicate the research is that they just
11 assumed that scientists at Roswell Park didn't do
12 it right?

13 MR. LATHAM: Object to the form of the
14 question, mischaracterizes his answer.

15 A. That's not what I said at all.

16 Q. You are saying that you're assuming that
17 the people at Roswell Park didn't do the study
18 correctly in that they didn't really use cellulose
19 acetate; is that correct?

20 MR. LATHAM: Object to the form of the
21 question.

22 A. Well, I think maybe you're
23 misunderstanding that study itself --

24 Q. I'm just --

25 A. -- because they didn't use cigarette

1 filter cellulose acetate fibers. They found the
2 fibers in human lungs. They attributed those
3 fibers to cigarette filter fibers. We believe that
4 that's an erroneous conclusion, that they were
5 cigarette filter fibers. However, that being said,
6 fibers in lungs, whether or not fibers in lungs can
7 cause tumors is a basic question that I think a
8 number of scientists have investigated. I don't
9 know that Reynolds going out and doing that same
10 study would really add to that information. The
11 real question is whether it's cigarette filter
12 fibers and I'm telling you that our experiment
13 suggests that the filter fibers being released in
14 mainstream smoke is a rare occurrence at best.

15 Q. So it happens but it doesn't happen all
16 the time? What are you saying?

17 A. I'm saying it can happen, it is a rare
18 occurrence. I think we can go back and look at the
19 details of that if you like. It's been a long time
20 since I've looked at the results from those studies
21 and I don't remember the details as we sit here.

22 Q. RJR has done studies to show that that,
23 in fact, does happen sometimes?

24 A. We can go back and look at the details of
25 that if you like. I don't remember the exact

1 details as we sit here today.

2 Q. Did RJR publish those studies in the
3 public domain?

4 A. Actually, I think, may be mistaken, but
5 as I recall I think there was a letter to the
6 editor of the journal written summarizing the
7 experiments. I don't recall whether that was, in
8 fact, published or not.

9 Q. You believe someone from RJR wrote the
10 letter to the editor summarizing experiments RJR
11 had done but not necessarily published anywhere; is
12 that correct?

13 A. As I recall -- let me say it again.

14 Q. I'm trying to understand.

15 A. Well, I think you're trying to
16 mischaracterize what I'm saying. Let me say it
17 again. As I recall, we did an experiment or
18 several experiments actually, the results were
19 inconsistent with the conclusions from the Roswell
20 Park scientists. I believe I'm correct in saying
21 that there was a letter to the editor of that same
22 journal written and I don't know whether the editor
23 of that journal, in fact, published that or not, I
24 don't recall.

25 Q. Were the results from your experiments

1 published in the journal?

2 A. I don't recall whether they were or not.

3 Q. It seems like it would have been the best
4 way to go; correct?

5 A. Well, again, we can go back and review
6 the details of these entire experiments, I don't
7 recall all the details as we sit here.

8 Q. Well, in the letter to the editor did
9 they share all the data that they had with the
10 journal?

11 A. We can go back and look, I don't recall.

12 Q. Who wrote the letter to the editor?

13 A. As I recall, it was -- if it was written,
14 it was Chris Coggins.

15 Q. You're not even sure it was actually
16 written then?

17 A. If you go back and listen to the answer
18 to the earlier question, I said if I recall I
19 wasn't certain.

20 Q. But if you write it out, Chris Coggins
21 did it; right?

22 A. Dr. Coggins was the scientist who
23 conducted those experiments. I assume he was also
24 the scientist who wrote the letter to the editor if
25 it were written.

1 Q. Did Dr. Coggins do that after the Roswell
2 Park study was published?

3 A. Best of my recollection the answer is
4 yes.

5 Q. The Roswell Park study, was that
6 published in a peer review journal?

7 A. I believe it was, yes.

8 Q. So who assigned Chris Coggins to do the
9 experiment that resulted in his letter to the
10 editor?

11 A. I don't know.

12 Q. Now, if, in fact, Dr. Coggins had
13 duplicated the Roswell Park study, that never was a
14 letter to the editor because there's no point in
15 publishing anything that duplicates a study;
16 correct?

17 MR. LATHAM: Object to the form of the
18 question, argumentative.

19 A. Dr. Coggins -- as I've tried to say
20 before, these experiments that Dr. Coggins
21 conducted were not the same experiments that
22 Roswell Park conducted. What they did was they
23 looked at human lungs and they found fibers. We
24 believe that they incorrectly concluded that those
25 fibers were, in fact, cigarette filter fibers and

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1 we don't believe they were. Two different
2 experiments.

3 Q. Actually, the Roswell Park Institute,
4 they found that when tiny fibers of the material
5 were embedded in the lungs of mice and observed
6 over six months that they caused tumors to develop?

7 A. Okay, well --

8 Q. Right?

9 MR. LATHAM: Object to the form of the
10 question. Ask a question, John.

11 A. I don't recall that. I was recalling
12 what I think was the results of human autopsies.

13 BY MR. HOAG:

14 Q. So you don't know anything about a study
15 done at Roswell Park where tiny fibers of cellulose
16 acetate were embedded in the lungs of mice,
17 observed over six months, and observed to cause
18 tumors to develop, you don't recollect that?

19 A. What I recall -- I don't recollect that.
20 What I do recall was an article where I believe the
21 scientist dissected human lungs on autopsy.

22 Q. So whatever Chris Coggins may or may not
23 have said as far as the letter to the editor in
24 responses, what you recollect was in response to
25 autopsy studies; is that correct?

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1 A. That's my recollection.

2 Q. Is it more likely than not that cigarette
3 smoking causes any disease?

4 A. I don't know about more likely than not.
5 It's clear that cigarette smoking is a risk for a
6 number of diseases. For some of those chronic
7 diseases, it's a strong risk. I don't know how to
8 then take that and translate that to terms of
9 whether it's more likely than not, I don't know.

10 Q. Does cigarette smoking cause any disease?

11 A. I don't know, it may.

12 Q. Are you familiar with any of the
13 epidemiological studies done related to cigarette
14 smoking and disease?

15 A. I've seen a few epidemiological study
16 reports. I'm not an expert in the area.

17 Q. On the surgeon general's warning that's
18 contained on a package of cigarettes, one of them,
19 one of those warnings says cigarette smoking causes
20 lung cancer, heart disease, and emphysema. Do you
21 agree with that, that cigarette smoking causes lung
22 cancer, heart disease, and emphysema?

23 A. I don't know whether it does or not. It
24 may, but I don't know.

25 Q. Do you believe it's been scientifically

1 proven that cigarette smoking causes lung cancer?

2 A. I don't believe that it's been
3 scientifically proven that cigarette smoking causes
4 lung cancer, it may.

5 Q. Are there any scientists at RJR who
6 believe it's been scientifically proven that
7 cigarette smoking causes lung cancer?

8 A. I don't know whether there are or not.

9 Q. Do you know of any?

10 A. I don't know. I haven't gone out and
11 done a complete poll of every scientist at RJ
12 Reynolds. I'm not aware of any that I know closely
13 that have concluded that.

14 Q. You know what the frank statement of
15 cigarette smoking is; correct?

16 A. I've seen the frank statement.

17 Q. What's your understanding of what the
18 frank statement is?

19 A. In what sense?

20 Q. Any sense. Do you have any sense for
21 what it is?

22 A. Let me tell you what little I know about
23 the frank statement. The frank statement was a
24 statement published by either the tobacco industry
25 or the tobacco institute, I'm not sure, sometime in

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1 the '50s that dealt with some general statements of
2 cigarette smoking and health. That's about what I
3 know of it.

4 Q. The houses of the American public would
5 be of paramount importance to the cigarette
6 industry; correct?

7 A. That sounds vaguely familiar, I don't
8 recall the details.

9 Q. Is that still true today that the houses
10 of the American public is of paramount importance
11 to the cigarette industry?

12 A. I think my experience at RJ Reynolds has
13 been that that is the case, that smoking and health
14 issues are of paramount importance at RJ Reynolds
15 and we've dedicated a lot of our scientists and our
16 resources to try to understand and do something
17 about the possible health risks of smoking.

18 Q. So if cigarette smoking actually did
19 cause lung cancer, would RJR just come right out
20 and admit that in your opinion?

21 A. I think science stands on -- for the
22 science, and if it's scientifically demonstrated
23 that cigarette smoking causes lung cancer or any of
24 the other chronic diseases, then the science
25 stands. Presently, the science doesn't stand,

1 although, most people in this country have already
2 concluded that anyway without the science.

3 Q. Concluded what?

4 A. That cigarette smoking causes lung
5 cancer.

6 Q. Most people in this country have
7 concluded that?

8 A. My general opinion that most people in
9 this country believe that cigarette smoking causes
10 lung cancer.

11 Q. But none of them work for RJR; correct?

12 MR. LATHAM: Object to the form of the
13 question.

14 A. I don't know.

15 BY MR. LATHAM:

16 Q. You don't know any that work for RJR;
17 correct?

18 A. I don't know anybody that works for RJR?

19 Q. That's concluded that cigarette smoking
20 causes lung cancer?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. I don't know. I haven't gone out and
24 polled everybody. I don't know that I know what
25 everybody believes.

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1 Q. Well, you did express a fairly strong
2 opinion that most people in America have concluded
3 that cigarette smoking causes lung cancer. So I'm
4 just asking you have you reached a conclusion as to
5 whether most of the RJR employees have concluded
6 that cigarette smoking causes lung cancer?

7 A. No, I haven't reached a conclusion on
8 that. I do believe from what I've read in the
9 Popular Press as well as in the scientific
10 literature is that in spite of the fact that the
11 science doesn't support the notion completely, that
12 most people in this country believe that cigarette
13 smoking causes lung cancer.

14 Q. Did you characterize that cigarette
15 smoking being caused by lung cancer as a notion; is
16 that correct?

17 MR. LATHAM: Object to the form of the
18 question.

19 A. I may have used that word. I don't think
20 that's fair to focus on that however.

21 Q. Well, what did you mean when you used the
22 word notion?

23 A. Can you read back the answer please.

24 (The reporter read back the last
25 requested portion.)

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1 A. That was probably a poor choice of
2 words. I think in spite of the fact that science
3 doesn't support the conclusion that cigarette
4 smoking causes cancer, most people in this
5 country -- it's my opinion that most people in
6 this country have already concluded that without
7 that scientific support.

8 Q. You are aware that the surgeon general of
9 the United States has concluded that, correct, that
10 cigarette smoking causes lung cancer; you are aware
11 of that, correct?

12 A. I'm aware of that.

13 Q. So you believe that the surgeon general
14 of the United States didn't base that on scientific
15 evidence; correct?

16 MR. LATHAM: Object to the form of the
17 question, mischaracterizes.

18 A. I think the surgeon general has concluded
19 that cigarette smoking causes lung cancer without
20 complete scientific support of that conclusion.

21 BY MR. HOAG:

22 Q. By complete scientific support you mean
23 people who work for RJR and other tobacco companies
24 haven't reached that conclusion?

25 MR. LATHAM: Object to the form of the

1 question.

2 A. Haven't reached what conclusion?

3 BY MR. HOAG:

4 Q. The conclusion that cigarette smoking
5 causes lung cancer.

6 A. I don't know what each individual at RJ
7 Reynolds has concluded.

8 Q. Can you name a single scientist at RJR
9 who has concluded that cigarette smoking causes
10 lung cancer?

11 MR. LATHAM: Object to the form of the
12 question, John. You've asked this about four
13 times, he's answered it four times.

14 A. I haven't done a poll of every scientist
15 at RJ Reynolds and determined whether or not they
16 believe whether cigarette smoking causes cancer, I
17 don't know.

18 BY MR. HOAG:

19 Q. Of those scientists at RJR who you know,
20 do you know whether any of the scientists at RJR
21 believe that it has not been scientifically
22 established that cigarette smoking causes lung
23 cancer?

24 MR. LATHAM: Object to the form of the
25 question.

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1 A. Did you ask whether any of the scientists
2 believe that?

3 BY MR. HOAG:

4 Q. Believe it has not been scientifically
5 established that cigarette smoking causes lung
6 cancer.

7 A. I think there are some scientists that
8 I'm aware of that believe that cigarette smoking
9 has not conclusively been demonstrated to cause
10 cancer in itself.

11 Q. Besides you at RJR, who are the other
12 scientists at RJR that you're aware of?

13 A. That have concluded that?

14 Q. Yes.

15 A. Well, I think a notable example because
16 he's really delved into the smoking and health
17 literature extensively is Dr. Sam Simmons.

18 Q. Who else?

19 A. Well, I don't know that I can give you a
20 comprehensive list, so I don't know. I think
21 that's a good place to start.

22 Q. He's the only one you can recollect at
23 RJR who has concluded that cigarette smoking has
24 not been scientifically established to cause lung
25 cancer?

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1 A. No. He's the first one that comes to
2 mind, of course.

3 Q. Who are the others that come to mind?

4 A. I don't know. I'd have to go back and do
5 another poll or do a poll.

6 Q. When did you do the poll on what most
7 people in the United States believe on whether
8 cigarette smoking causes lung cancer?

9 MR. LATHAM: Object to the form of the
10 question, argumentative.

11 A. I have read that in the scientific
12 literature and in the Popular Press. I did not do
13 a poll.

14 BY MR. HOAG:

15 Q. To your knowledge, to your personal
16 knowledge, has RJR ever hired a scientist who had
17 concluded that cigarette smoking causes lung cancer
18 or any other disease?

19 A. I don't know.

20 Q. You don't know if they've ever hired
21 anybody like that?

22 A. I don't know if RJ Reynolds has hired a
23 person who believes or has concluded that cigarette
24 smoking causes lung cancer or any other disease, I
25 don't know. That's such a broad question. I

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1 haven't examined every employee of RJ Reynolds, I
2 don't know what everybody believes and thinks.

3 Q. Well, anybody that worked at RJR that has
4 that opinion wouldn't have much chance for
5 promotion, would they, if they were a scientist?

6 MR. LATHAM: Object to the form of the
7 question, argumentative.

8 A. You know, I'm really offended by that
9 because we scientists at RJ Reynolds are scientists
10 first and I think statements like that just are out
11 of bounds and they're outrageous.

12 Q. It's outrageous to think that RJR would
13 not promote a scientist who had concluded that
14 cigarette smoking causes lung cancer; is that
15 correct?

16 A. Yes, I do.

17 Q. You think that; right?

18 A. I think the assertion that RJ Reynolds
19 will not promote somebody because of their beliefs
20 when they're a scientist and they're hired to do
21 good science is outrageous.

22 Q. Now, would RJR hire someone, a scientist
23 who publicly stated that he had concluded that --
24 he or she had concluded that cigarette smoking
25 causes lung cancer?

1 MR. LATHAM: Object to the form of the
2 question.

3 BY MR. HOAG:

4 Q. In your opinion?

5 A. In my opinion, I don't think that would
6 preclude employment. If the person is good as a
7 scientist for the job that they have to do, a
8 person's opinions are secondary.

9 Q. How about their scientific conclusions,
10 are those also secondary?

11 A. To work in a scientific organization?

12 Q. Yes.

13 A. Like ours?

14 Q. Yes.

15 A. They have to be excellent scientists,
16 they have to have scientific skills so that they
17 can do their job well and they have to do their job
18 extremely well.

19 Q. Have you ever had occasion to interview
20 scientists for possible employment at RJR?

21 A. Yes.

22 Q. Have you made hiring decisions about
23 scientists who have applied for positions?

24 A. Yes.

25 Q. Have any of those scientists ever

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1 expressed to you that they had concluded that
2 cigarette smoking causes lung cancer?

3 A. I don't recall a person ever expressing
4 that to me. I don't recall myself -- in fact, I
5 know I've never asked a person that directly in an
6 interview.

7 Q. Have any of the scientists that you
8 interviewed for employment positions with RJR ever
9 expressed to you their beliefs or their scientific
10 conclusion that cigarette smoking causes heart
11 disease or emphysema?

12 A. I don't recall that ever happening.

13 Q. If a scientist had, in fact, reached that
14 conclusion, would that in any way affect your
15 hiring decision as to that scientist?

16 A. I've already told you that we hire
17 scientists for their scientific abilities, not for
18 what they believe about cigarette smoking and
19 disease.

20 Q. I'm talking about scientific conclusions,
21 not merely beliefs.

22 A. All right. Then ask the question again
23 and rephrase it please.

24 Q. I said it that way the first time, sir.

25 A. Well, would you refresh my memory,

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1 please.

2 Q. You rephrased it in your answer.

3 A. I beg your pardon.

4 Q. I said you rephrased it in your answer.
5 That wasn't my question.

6 A. Look, please just ask me the question
7 again, refresh my memory of what it is you want to
8 know, I'll answer your question as accurately as I
9 can.

10 Q. If a scientist you were interviewing for
11 a position working for RJR Tobacco Company stated
12 to you during an interview he or she had concluded,
13 scientifically concluded that it had been
14 scientifically established beyond all reasonable
15 doubt that cigarette smoking causes lung cancer,
16 would that in any way affect your hiring decision
17 as to that scientist?

18 A. It would not in any way affect my
19 decision whether or not to hire that scientist.

20 Q. You received a Notice of Deposition that
21 included subpoena duces tecum for documents. Did
22 you bring any documents with you today?

23 MR. LATHAM: John, we have available what
24 I would characterize as Dr. Townsend's reliance
25 documents which are in a box that contain all of

1 the documents in the public domain on which he
2 relies for his expert opinions in the Engle case.
3 Those are the only documents that we have brought.

4 BY MR. HOAG:

5 Q. Are there documents that are not in the
6 public domain on which you rely in the basis of any
7 of your expert opinions?

8 A. Yes.

9 Q. You didn't bring any of those with you?

10 A. No.

11 Q. Why?

12 A. Because it's a huge volume that spans 20
13 years of employment with RJ Reynolds. I've
14 developed my expert opinions not only through my
15 direct experience in the laboratory, but also
16 through reading thousands and thousands of
17 documents over -- the internal documents as well as
18 external over the course of 20 years.

19 Q. What way did the documents not in the
20 public domain assist you in developing the
21 conclusions in the Engle case?

22 A. In what way, is that your question?

23 Q. Yes.

24 A. Well, general experience and
25 understanding of the various elements of cigarette

1 design, the different ways to design cigarettes,
2 the different smoke constituents, tar yields,
3 nicotine yields, carbon monoxide yields that are
4 affected by the various design elements. There's
5 no one handful of documents that incorporates that
6 entire body of knowledge. There are, however,
7 thousands of documents, both internal and external.

8 Q. To the extent that your expert opinion is
9 based on information that's not in the public
10 domain that you have not provided to us, I move to
11 strike all of your testimony and to exclude you as
12 an expert witness.

13 Now, those documents --

14 MR. LATHAM: John, as you know, we filed
15 an objection to your subpoena so you can save your
16 motions for the judge.

17 MR. HOAG: I'm just making record. You
18 can make whatever record you want.

19 Q. The documents that are in the public
20 domain that you did bring, what are they?

21 A. Well, most of them are scientific
22 articles. I guess all of them are scientific
23 articles from the scientific literature that speak
24 to cigarette design.

25 Q. Approximately, how many articles are you

1 talking about?

2 A. Gee, it's been awhile since I've reviewed
3 them all. I'd say maybe 60 or 70 articles, maybe
4 80. No, not that many, maybe 40 or 50, sorry.

5 Q. Those articles that you brought that are
6 in the public domain that you rely on, I'd like to
7 have those copied and marked as Composite Exhibit 1
8 to this deposition.

9 MR. LATHAM: It's a big box of documents,
10 are you sure you want them all, John?

11 MR. HOAG: What did you say?

12 MR. LATHAM: It's probably 8,000 pages.

13 MR. HOAG: 40 or 50 articles comprise
14 8,000 pages?

15 MR. LATHAM: Probably.

16 MR. HOAG: Each article is, what, 100,
17 200 pages long?

18 THE WITNESS: Let me help out here.
19 Several of the documents are the National Cancer
20 Institute reports, which are massive. There are
21 others that are quite large. Some of the articles
22 are quite short.

23 MR. LATHAM: As a way of compromising,
24 John, just so we don't have an enormous exhibit
25 list, can I send you a list of the references?

1 Would that satisfy you?

2 MR. HOAG: A list of the references --

3 MR. LATHAM: In the box.

4 MR. HOAG: A list of the references, it
5 includes citation to those references.

6 MR. LATHAM: Correct.

7 MR. HOAG: If any of those are not
8 available in the public domain, we'd like to have
9 copies that are not available in the public domain.

10 MR. LATHAM: Fine. I'll send you the
11 list and you can decide that. We can agree on
12 that.

13 MR. HOAG: Okay. Sounds reasonable.

14 MR. LATHAM: Okay.

15 BY MR. HOAG:

16 Q. Are there any other things in the public
17 domain -- do any of those things include surgeon
18 general's reports?

19 A. Yes.

20 Q. Which ones?

21 A. The '89 surgeon general report and I
22 believe the '81 surgeon general report is in there
23 as well.

24 Q. What's the 1981 surgeon general report?

25 A. The title of it is The Changing Cigarette

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1 and it deals specifically with a lot of cigarette
2 design elements in questions. My counsel just gave
3 me a list of the documents because I didn't bring
4 it with me. But, yeah, the '81 surgeon general
5 report is The Changing Cigarette.

6 Q. And the '89 report concerns nicotine
7 addiction?

8 A. Yes.

9 Q. Also the surgeon general report?

10 A. Beg your pardon.

11 Q. You rely on both of those surgeon general
12 reports for the basis of your opinion?

13 A. Well, obviously, the 1981 report has
14 quite a lot of information there that's relevant to
15 my testimony, and there's -- it's actually a pretty
16 good summary of many issues of cigarette design,
17 smoke constituents, and tar reduction, and that
18 sort of thing. The '89 is probably one that I rely
19 on less but, of course, is important because of the
20 nicotine issue.

21 Q. Is there any portion of those surgeon
22 general's reports you do not rely upon?

23 A. Well, I think that's -- the answer is
24 yes. I mean, there are many areas of the surgeon
25 general reports that deal with areas that I'm not

1 an expert, in the biological sciences, for example.

2 Q. In what way are you relying on the 1989
3 surgeon general's report which concerns nicotine
4 addiction?

5 A. Well, in the whole issue of nicotine
6 yields, changing nicotine yields over time, factors
7 that can influence nicotine yield. We've touched
8 on a couple of issues here today like ammonia and
9 the form of nicotine which are -- and some of these
10 issues are only briefly touched on in the surgeon
11 general's report.

12 Q. In what way does ammonia influence
13 nicotine yield?

14 A. It doesn't.

15 Q. Is that a conclusion of the 1989 surgeon
16 general's report?

17 A. I don't believe so, but it's a conclusion
18 of extensive research at RJ Reynolds.

19 Q. Has any of that research been published
20 in the public domain?

21 A. I don't recall. I don't think so, but
22 I'm not certain.

23 Q. Do you know why that research has not
24 been published in the public domain?

25 A. I don't think there was really, frankly,

1 a pressing need to publish that. I mean, we've
2 done experiments trying to determine whether
3 nicotine yield is affected by ammonia, the use of
4 ammonia processing aids or ammonia as an
5 ingredient, and we've not seen statistically
6 significant effects on nicotine yield, and I'm not
7 sure that that's something that's worthy of a
8 scientific publication in the public domain.

9 Q. When were those studies done?

10 A. I think there have been several studies
11 over the last 15 years or so.

12 Q. Who did those studies?

13 A. I think there's been a variety of
14 researchers doing those types of studies.

15 Q. You've reviewed many of those studies?

16 A. It's been quite a while since I've seen
17 those studies, but, yes, I've reviewed some of
18 those.

19 Q. Those studies are the basis for your
20 opinion that ammonia does not increase nicotine
21 yield?

22 A. Those experiments do form the basis for
23 my conclusion that at levels that we use ammonia in
24 cigarettes, the nicotine yield is not affected, so
25 those documents, those internal studies do help me

1 form my opinions on that issue.

2 Q. To the extent we have not been provided
3 with those internal documents, we again move to
4 strike the testimony of this witness.

5 Are you going to be providing us with
6 those documents that you rely on that are internal
7 documents related to ammonia and nicotine yield.

8 MR. LATHAM: John, I'm not aware of the
9 discovery in this case, but I suspect that all of
10 those documents have been produced in discovery.

11 MR. HOAG: Well, we asked for them today,
12 and he didn't bring them.

13 MR. LATHAM: Well, we also filed an
14 objection to your subpoena. So maybe we'll have to
15 take it up with the judge.

16 MR. HOAG: You made your record, I've
17 made mine. I'm moving to exclude the witness
18 because the things that he bases his expert
19 testimony on have not been provided.

20 MR. LATHAM: You can take whatever
21 position you want. It would be my position I
22 suspect they have been provided.

23 MR. HOAG: Suspect they have been
24 provided?

25 MR. LATHAM: I don't know the discovery

1 in the case, John.

2 MR. HOAG: I can tell you what I know
3 with absolute certainty that we requested it today
4 that he bring it with him.

5 MR. LATHAM: I know with absolute
6 certainty we filed an objection to your subpoena .

7 MR. HOAG: Tell me why would you object
8 to things that you've already provided. Anyway,
9 the record speaks for itself on that.

10 Q. Have you prepared any written report that
11 summarizes your testimony in this case?

12 A. I think I have an expert witness report
13 prepared for this case.

14 Q. Other than that, have you prepared
15 anything else?

16 A. No.

17 Q. Did you actually prepare the expert
18 witness statement?

19 A. Yes, I did.

20 Q. You wrote it yourself?

21 A. I wrote it along with one of our counsel.

22 Q. Who's the counsel you wrote it with?

23 A. Mark Holton.

24 Q. Have you reviewed any depositions taken
25 in the Engle case?

1 A. No, I haven't.

2 Q. Reviewed any documents in the Engle case?

3 A. No, I haven't.

4 Q. Are you prepared to comment upon the
5 opinions expressed by other witnesses in the Engle
6 case?

7 A. As we sit here today, I don't know what
8 those opinions are.

9 Q. To the extent that you're not prepared to
10 give any opinions about other witnesses in the
11 Engle case I would move to strike any such opinions
12 you may have at a future date.

13 MR. LATHAM: John, just ask questions,
14 you can make your motions later.

15 MR. HOAG: I'm making a record. If he's
16 not prepared to give the opinions in the
17 deposition --

18 MR. LATHAM: He's prepared --

19 THE WITNESS: Wait. Ask that question
20 again. I think you've confused a couple of
21 questions, haven't you?

22 You asked me -- at least I think you
23 asked me whether I was prepared to speak to the
24 opinions of other witnesses in the Engle case. I
25 don't know what the other opinions are of any of

1 the witnesses in the Engle case. I don't know much
2 about this case.

3 BY MR. HOAG:

4 Q. You haven't read any of the depositions;
5 right?

6 A. I have not read a deposition from the
7 Engle case.

8 Q. No one has provided you with any;
9 correct?

10 A. That's correct. So what's your point?

11 Q. I already made it. I don't need to make
12 it again.

13 What is your understanding of what the
14 Engle case is about?

15 A. I don't have much information on the
16 Engle case. I do know that it's a Florida case.
17 It's in Miami. I understand it to be a class
18 action primary smoker smoking and health case.

19 Q. You testified earlier in this deposition
20 you took over as vice president in 1997 in July,
21 vice president of product development and
22 assessment, for someone who had retired as far as
23 work on the Eclipse cigarette is concerned;
24 correct?

25 MR. LATHAM: Is there a question, John?

1 MR. HOAG: I said correct.

2 Q. Is that correct?

3 MR. LATHAM: Object to the form of the
4 question.

5 BY MR. HOAG:

6 Q. Is that correct?

7 A. Earlier in this deposition I testified
8 that I believe I was promoted in July of 1997 to
9 vice president of product development and
10 assessment. I think also in testimony somewhat
11 later on there was an answer that said that there
12 was a person who retired from RJ Reynolds Tobacco
13 Company who used to be in charge of the Eclipse
14 project.

15 Q. Right. And you said that you -- there
16 were a couple of things that you did and you've
17 done since starting in July of 1997 being
18 responsible for that project and one was
19 reorganization and the other one was redirection of
20 objective; correct?

21 A. Yeah, but I think you mischaracterized
22 the first part of that because I didn't assume
23 responsibility of Eclipse in July of '97.
24 Officially, and this is my testimony from earlier,
25 I assumed responsibility for Eclipse development in

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1 the first of this year, the first of 1998,
2 although, I began working on restructuring it a
3 couple of months ago.

4 Q. What reorganization have you done?

5 MR. LATHAM: Object to the form of the
6 question, asked and answered.

7 A. Well, specifically, we've split up the
8 old Eclipse development group into a couple
9 different areas and included some new people or
10 some existing RJR employees who aren't working on
11 the project into that effort.

12 Q. You said you redirected some objectives.
13 What were the objectives you redirected?

14 A. Redirected objectives to focus on major
15 improvements in two areas, particularly taste and
16 lightability, and minimize our effort on other
17 issues of improvement -- improvement issues with
18 the exception of trying to understand how we can
19 improve product consistency and make that product
20 more consistently day after day.

21 MR. LATHAM: Can we take a five-minute
22 break, John?

23 MR. HOAG: Okay.

24 (A recess was taken.)

25 BY MR. HOAG:

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1 Q. Now, one of the things you said a little
2 while ago was that there were internal RJR studies
3 done on the nicotine yield on whether or not the
4 nicotine yield was affected by ammonia, you said
5 there was no statistical significant effect. When
6 you say no statistical significant effect, what do
7 you mean?

8 A. Well, that's just a way scientists use to
9 say that there are no measurable effects given the
10 variability of the test method.

11 Q. Based on the internal information you've
12 reviewed, were there any instances where the
13 nicotine yield was increased when ammonia was in a
14 cigarette?

15 A. I don't recall such a case.

16 Q. And the studies that looked at this and
17 found no statistical significant effect, what
18 exactly did they do?

19 A. I can recall several studies where we've
20 evaluated a number of properties of cigarettes
21 including nicotine yield both with and without the
22 use of ammonia in whatever part of the tobacco
23 processing and found no difference, no
24 statistically significant difference in nicotine
25 yield.

1 Q. What quantitatively would be a
2 statistically significant difference in nicotine
3 yield?

4 A. Well, to be statistically significant,
5 one would have to have multiple measures of which
6 the average would be higher than the baseline or
7 the lower than the baseline by a certain amount,
8 and I don't recall the variability of the nicotine
9 method, although, the nicotine method is quite
10 precise, that is, the variability is quite low.

11 Q. Were any of these -- any of this research
12 that you discussed in here published in peer review
13 journals?

14 A. I don't recall such a case.

15 Q. Given the fact that there's scientific
16 studies that have been published indicating just
17 the opposite of what you say RJR's internal
18 documents reveal, what's the reason that this
19 hasn't been published in any peer review, public
20 domain journals?

21 MR. LATHAM: Object to the form of the
22 question.

23 A. I don't agree with you that there's
24 published information in the scientific literature
25 that shows that nicotine yield will increase with

1 the use of ammonia at levels that we use in
2 cigarettes. I'm just not aware of such data.

3 BY MR. HOAG:

4 Q. When you say at levels that we use it in
5 cigarettes, what are you talking about?

6 A. Exactly that, at levels that we use in
7 tobacco processing for cigarette manufacturing.

8 Q. What levels of ammonia are used in
9 cigarettes?

10 A. It varies depending on how we're using
11 it, whether it's in reconstituted sheet, in one
12 variety, one type of application, or in say, for
13 example, diamonium phosphate application to a
14 reconstituted sheet, it just depends.

15 Q. Does ammonia naturally occur in tobacco?

16 A. Ammonia is a naturally occurring
17 constituent of smoke. It's formed during the
18 burning of tobacco.

19 Q. So it would be there even if you didn't
20 add ammonia?

21 A. That's correct.

22 Q. So the studies that you're talking about,
23 they just look at the addition of ammonia or do
24 they deal with the total amount of ammonia in the
25 tobacco?

1 A. As I recall, the experiments, as I've
2 already said, the experiments were comparing
3 cigarettes with and without ammonia addition and
4 determining a number of properties of the
5 cigarettes including nicotine yield.

6 Q. When you say with or without ammonia
7 addition, do you mean ammonia added in only or are
8 you including the ammonia that's naturally
9 occurring in the tobacco?

10 A. There is no, to my knowledge, naturally
11 occurring ammonia in tobacco. There is ammonia
12 produced on the burning -- in the burning of the
13 cigarette. So there is ammonia in smoke.

14 Q. Right. And there would be even if
15 ammonia wasn't added; correct?

16 MR. LATHAM: Object to the form of the
17 question, asked and answered.

18 A. No, you're misunderstanding my answer.
19 There is not ammonia in tobacco. There is ammonia
20 in smoke that's produced when tobacco is burned.

21 BY MR. HOAG:

22 Q. Right. And there would be even if
23 ammonia wasn't added?

24 A. And there would be and is ammonia in
25 smoke even if ammonia or ammonia compounds are not

1 added during the manufacture of cigarettes.

2 Q. But in fact ammonia or ammonia compounds
3 are added during the manufacture of cigarettes;
4 correct?

5 A. Ammonia and ammonia compounds are added
6 to the manufacture of some cigarettes.

7 Q. So the research that you're talking about
8 only looks at the amount of ammonia that's added?

9 A. In doing the experiment as I've
10 described, as I recall, we compared cigarettes with
11 added ammonia and cigarettes without added ammonia,
12 and we measured a number of properties of those
13 cigarettes including nicotine yield.

14 Q. And, overall, the fact that ammonia was
15 in the cigarette, does that include nicotine yield?

16 MR. LATHAM: Object to the form of the
17 question, asked and answered.

18 MR. HOAG: No, that's not the question I
19 just asked.

20 A. Ammonia is produced on the combustion of
21 tobacco. I don't know how to do an experiment
22 where ammonia is not produced on combustion of
23 tobacco.

24 Q. Is it possible to reduce the amount of
25 ammonia that would normally be in tobacco when it's

1 combusted?

2 MR. LATHAM: Object to the form of the
3 question.

4 A. Well, I don't know whether it would be
5 possible or not. To determine that, I think one
6 would have to determine -- first find out what the
7 precursors are for ammonia production and then try
8 to reduce those precursors in the tobacco.

9 Q. And to your knowledge has that ever been
10 done?

11 A. I'm not aware of whether that's been done
12 or not, I just don't know.

13 Q. One of the objectives of the development
14 of the Premier cigarette was to minimize the
15 biological activity of the mainstream and
16 sidestream smoke permitted by the Premier as
17 compared to regular cigarettes; correct?

18 A. That's one of the objectives. I think
19 that's generally a reasonable statement of one of
20 the objectives.

21 Q. That was also one of the objectives of
22 the Eclipse; correct?

23 A. That's a reasonable statement of one of
24 the objectives of Eclipse.

25 Q. Both the Premier and the Eclipse achieved

1 that objective; correct?

2 A. Premier had -- Premier exhibited somewhat
3 lower biological responses than Eclipse, but both
4 had major reductions in both chemistry and
5 biological activity.

6 Q. When you say biological activity, you
7 mean things like causing tumors; correct?

8 A. Well, biological activity, I mean the
9 results of a number of biological assays like one
10 we discussed already, urine mutagenicity.

11 Q. You also include causing tumors?

12 A. We have assays for malskin tumor
13 genicity.

14 Q. Does decreasing the biological activity
15 of the mainstream and this sidestream smoke
16 indicate to you that you have reduced the health
17 risks of the cigarette?

18 A. Well, to be frank we don't know whether a
19 reduction in those assays and that reduction in
20 chemistry would reduce the health risks of
21 cigarette smoking. I think common wisdom in the
22 biological sciences and in toxicology would suggest
23 that it ought to be, but there's no way to prove
24 it.

25 Q. You think that there's any way to prove

1 to your satisfaction that cigarette smoking causes
2 any disease?

3 A. Well, of course, I think there's ways to
4 prove that. I think it's very difficult when
5 you're talking about chronic disease, when you're
6 talking about humans. But I think what's missing
7 is clear definition of causative factors and clear
8 definition of a mechanism of how that may occur if
9 it does. The mechanism is probably the biggest and
10 most difficult piece that's missing.

11 Q. That's missing now and it was missing 40
12 years ago; correct?

13 A. I think even today we don't know what
14 mechanisms may be operating if cigarette smoke, in
15 fact, causes cancer.

16 Q. That was true 40 years ago when the frank
17 statement was first stated to the American public;
18 correct?

19 A. I don't think mechanisms of any of these
20 diseases were known 40 years ago.

21 Q. And you conclude today just like the
22 tobacco industry concluded 40 some years ago that
23 it has not been scientifically proven that
24 cigarette smoking causes any disease; correct?

25 MR. LATHAM: Object to the form of the

1 question.

2 A. Well, I think -- again, I'm not an expert
3 in this area, but I think I've made my opinion very
4 clear in this testimony today. I don't believe
5 that it's been scientifically proved that cigarette
6 smoking by itself or in itself causes cancer. It
7 may. But the science is simply not there to
8 definitively support that conclusion.

9 Q. And that would include any disease,
10 correct, not just cancer?

11 A. Any disease that's associated with
12 cigarette smoking?

13 Q. Right.

14 A. Again, I'm not an expert in this area,
15 but I think that's my take on the situation.

16 MR. HOAG: I don't have any other
17 questions. Thank you very much for your time.

18 MR. LATHAM: John, before you go I want
19 to just mark for the record and attach the
20 objections that we filed to your subpoena duces
21 tecum to the deposition.

22 MR. HOAG: That is a defense exhibit
23 then?

24 MR. LATHAM: Correct.

25 MR. HOAG: Okay.

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1 MR. LATHAM: And I will -- if you tell me
2 your fax number, I'll fax to you this afternoon the
3 list of references.

4 MR. HOAG: You have that list, right?

5 MR. LATHAM: I don't have it in a form
6 that I want to fax to you, but I do have it. I
7 want to put some identifiers on it; in other words,
8 it's a blank form, but I'll do that and send it to
9 you.

10 MR. HOAG: I'm not sure what you mean.

11 MR. LATHAM: What I want to do is
12 identify that this was for the Engle case.

13 MR. HOAG: You're going to supply us with
14 a list of all of the documents that he brought with
15 him that he's relying on and those are all the
16 documents that are in the public domain; correct?

17 MR. LATHAM: I don't know how we define
18 public domain, but they're clearly publicly
19 available.

20 MR. HOAG: That list, if you have it, I'd
21 like to have that marked as an exhibit now.

22 MR. LATHAM: We can do that.

23 MR. HOAG: That will be Plaintiff's
24 Exhibit 1, that list of documents that he relies
25 on.

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1 MR. LATHAM: Fine.

2 MR. HOAG: We've made all of our other
3 objections and you've also made everyone aware of
4 the objections you filed. I guess that's all for
5 the record we need to make for now.

6 Of course, we're ordering the transcript
7 and a disk and a manuscript, and I assume that he
8 wants to read.

9 MR. LATHAM: Absolutely.

10 MR. HOAG: Okay. Thanks a lot.

11 (Signature reserved.)

12 (Whereupon, at 2:09 p.m., the taking of
13 the instant deposition ceased.)

14

15

Signature of the Witness

16

SUBSCRIBED and SWORN TO before me this

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____ day of _____, 19__.

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My Commission expires: _____

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E R R A T A S H E E T

RE: ENGLE, ET AL v. RJ REYNOLDS TOBACCO CO., ET AL
DEPOSITION OF: DAVID E. TOWNSEND

 Please read this original deposition with
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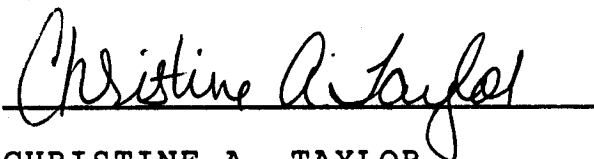
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CERTIFICATE OF REPORTER

STATE OF NORTH CAROLINA)

COUNTY OF MECKLENBURG)

I, Christine A. Taylor, the officer
before whom the foregoing deposition was taken, do
hereby certify that the witness whose testimony
appears in the foregoing deposition was duly sworn
by me; that the testimony of said witness was taken
by me to the best of my ability and thereafter
reduced to typewriting under my direction; that I
am neither counsel for, related to, nor employed by
any of the parties to the action in which this
deposition was taken, and further that I am not a
relative or employee of any attorney or counsel
employed by the parties thereto, nor financially or
otherwise interested in the outcome of the action.



CHRISTINE A. TAYLOR

Certified Shorthand Reporter

Notary Public in and for

County of Mecklenburg

State of North Carolina

My commission expires February 27, 2001.

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